Superintendents’ Network Site Visit
Rock Valley Community School District
Rock Valley High School
1712 20th Avenue, Rock Valley, Iowa

Rock Valley Central Office
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Rock Valley, IA
712-476-2701

November 4, 2014
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PARTICIPANTS

Superintendents
Chad Janzen, Rock Valley Community School District - Host
Russ Adams – MOC Floyd Valley
Steve Barber, George Little Rock
Rod Earleywine, Sergeant Bluff Luton CSD
Donita Joens, River Valley CSD
Nick Ouellette, OA-BCIG CSD

Rock Floyd-Valley Community School District
Nicole Roder, Middle/High School Principal
Dave Vonk, Instructional Coach

Northwest AEA
Tim Grieves, Chief Administrator, Facilitator
Sherri Wing, Administrative Assistant

We Missed
Lynn Evans, Alta-Aurelia CSD
Brian Johnson, Schleswig CSD
PROBLEM OF PRACTICE

What evidence do you see that technology is being integrated at various levels in the classroom using the SAMR model??

THEORY OF ACTION

IF we provide the technology tools for teachers to use and utilize with students, and IF we provide ample opportunities for training on how to incorporate technology into our learning strategies, and IF we encourage and expect technology to be used to engage students at high levels...

THEN we will see students being engaged with technology that promotes higher order learning, as measured by SAMR, and students will be increasingly prepared to learn and work in the 21st Century.

DISTRICT PROFESSIONAL DEVELOPMENT BACKGROUND

SAMR
Dr. Ruben Puentedura developed the SAMR model as a way for teachers to evaluate how they are incorporating technology into their instructional practice. The model aims to enable teachers to design, develop, and integrate digital learning experiences that utilize technology to transform learning experiences to lead to high levels of achievement for students. The model is broken into four categories described below. As one moves along the continuum, computer technology becomes more important in the classroom but at the same time becomes more invisibly woven into the demands of good teaching and learning. (There is a time and place for each in the classroom. The goal is not to eliminate one or to have everyone doing redefinition every class period.)

Substitution
In a substitution level, teachers or students are only using new technology tools to replace old ones, for instance, using Google Docs to replace Microsoft Word. The task (writing) is the same but the tools are different.

Augmentation
Though it is a different level, we are still in the substitution mentality but with added functionalities. Again using the example of Google docs, instead of only writing a document and having to manually save it and share it with others, Google Docs provides extra services like auto saving, auto syncing, and auto sharing in the cloud.

Modification
This is the level where technology is being used more effectively not to do the same task using different tools but to redesign new parts of the task and transform student learning. An example of this is using the commenting service in Google Docs, for instance, to collaborate and share feedback on a given task.

Redefinition
If you are to place this level in Blooms revised taxonomy pyramid, it would probably correspond
to synthesis and evaluation as being the highest order thinking skills. Redefinition means that students use technology to create imperceptibly new tasks. An example of redefinition is when students connect to a classroom across the world where they would each write a narrative of the same historical event using the chat and comment section to discuss the differences, and they use the voice comments to discuss the differences they noticed and then embed this in the class website.

**What SAMR is NOT**... It is not a hierarchy of effective technology integration whereas one would strive for Redefinition in every lesson. Rather, it is a continuum of various effective levels of integration that requires balance and thoughtful decision-making.

**SAMR VIDEO**
Video and short explanation of SAMR
https://www.commonsensemedia.org/videos/introduction-to-the-samr-model

**District Initiatives:**

**1:1 Initiative**
We have been 1:1 in grades 6-12 since 2012-2013 (Mac Airs). Apple was hired for two two-day trainings in May and August 2012. Rachel Langenhorst, then a 6th grade teacher, was hired full-time as the technology integrationist. Since then she has held weekly Web Wednesday (changed to every other week) sessions after school. These sessions introduced a variety of technology tools. She now serves in the same capacity as an instructional coach with our TLC grant.

**AIW**
The 2011-2012 school year saw full implementation for grades 6-12 with district-wide implementation beginning in 2012-2013. We are now doing what we call AIW+ or SAMR+. Our AIW meetings continue to evolve around the 3 categories of AIW but include the four levels of SAMR as well.

**SAMR**
Professional development began during the 2013-2014 school year. All staff were officially trained this fall.

**Common Curriculum**
The district began using this site this fall. The site is an online lesson planning tool that links lessons to the Iowa Core. Training was provided last spring and again this fall.

**Teacher Leadership & Compensation**
The district received the TLC funds in year one. We have two full-time instructional coaches. The both work as instructional strategists. Rachel Langenhorst has an emphasis in technology and Dave Vonk (previously 2nd grade teacher) has an emphasis in data. We also have 4 model teachers that teach full-time and assist with initiatives and professional development.

**District Technology Tools:**
- Mac Air Laptops
- iPods
- iPads
- Apple T.V.
- Projectors
- SMART boards
- Online textbooks
TECH INTEGRATION DATA

The figure below shows the teachers’ lesson plan changes since the implementation of 1:1. The vast majority of teachers have made significant alterations to lesson plans in order to enhance technology skills and increase the level of authentic intellectual work (AIW). The survey asked teachers on a scale of 1-9, 1 being not at all to 9 being very much, how much their lesson plans have changed since the implementation of the laptop initiative. It is noteworthy that two of the individuals who rated a “1-not at all” were new to the district and one was highly technology proficient prior to implementation.

Technology LoTi (Levels of Technology Integration) Needs Assessment

*Pre-Implementation LoTi Survey Data*

![Pre-Implementation LoTi Survey Data](image)

*Post Implementation LoTi Survey Data*

![Post Implementation LoTi Survey Data](image)
Post-rollout indication of weekly time allocation for technology integration.

Percentage of teachers who integrate technology for specific time increments each week prior to 1:1 laptop rollout. Post-rollout indication of weekly time allocation for technology integration.

![Pie chart showing time allocations.]

<table>
<thead>
<tr>
<th>0-30 minutes</th>
<th>31-60 minutes</th>
<th>61-90 minutes</th>
<th>91+ minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>8</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>52%</td>
<td>30%</td>
<td>7%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Post-rollout indication of weekly time allocation for technology integration.

![Pie chart showing time allocations.]

<table>
<thead>
<tr>
<th>0-30 minutes</th>
<th>31-60 minutes</th>
<th>61-90 minutes</th>
<th>91+ minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>6</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>7%</td>
<td>22%</td>
<td>33%</td>
<td>37%</td>
</tr>
</tbody>
</table>
VISUAL CHARTS OF SAMR

<table>
<thead>
<tr>
<th>Enhancement</th>
<th>Substitution</th>
<th>Augmentation</th>
<th>Modification</th>
<th>Redefinition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tech acts as a direct tool substitute, with no functional change</td>
<td>Replacing an analogue task, e.g. writing with digital, e.g. typing</td>
<td>Typing but enhancing by using an image to represent themes in writing</td>
<td>Typing but putting online and getting peer review in comments</td>
<td>Typing but putting online to an expert audience which wouldn’t have been previously possible</td>
</tr>
</tbody>
</table>

**Transformation**

- **R** Redefinition: tech allows for creation of new tasks previously inconceivable
- **M** Modification: tech allows for significant lesson redesign
- **A** Augmentation: tech is a tool substitute with some improvement
- **S** Substitution: tech is a tool substitute with no functional change

Integrated movies, hot links, software, apps, Skype with experts, compare, combine results via wikis and blogs, publish world wide online
Integrated email graphs, images spreadsheets
Word processing with spell check, cut and paste
Word processor used as a typewriter

Spreadsheet, graphs, email with others, redesign lab, hand in
Grammar, spell check, cut, paste, print, hand in
Word process lab report, print out, hand in
Enhancement
The SAMR Model
enhancing technology integration

Redefinition:
technology allows for the creation of new tasks, previously inconceivable
create a narrated Google Earth guided tour and share this online

Modification:
technology allows for significant task redesign
use Google Earth layers such as panorama and 360 views to research locations

Augmentation:
technology acts as a direct tool substitute, with functional improvement
use Google Earth rulers to measure the distance between two places

Substitution:
technology acts as a direct tool substitute, with no functional change
use Google Earth instead of an Atlas to locate a place

http://www.hippasus.com/rrpweblog/
OBSERVATION ORGANIZER

TRANSFORMATION

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>M</th>
<th>A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Redefinition</strong></td>
<td>Tech allows for creation of new tasks previously inconceivable</td>
<td>Integrated movies, hot links, software</td>
<td>Skype with experts, compare, combine results via wikis and blogs, publish worldwide online</td>
<td></td>
</tr>
<tr>
<td><strong>Modification</strong></td>
<td>Tech allows for significant lesson redesign</td>
<td>Integrated email, graphs, images, spreadsheets</td>
<td>Spreadsheets, graphs, email with others, design lab, hand in</td>
<td></td>
</tr>
<tr>
<td><strong>Augmentation</strong></td>
<td>Tech is a tool substitute with some improvement</td>
<td>Word processing with spell check, cut and paste</td>
<td>Grammar, spell check, cut, paste, print, hand in</td>
<td></td>
</tr>
<tr>
<td><strong>Substitution</strong></td>
<td>Tech is a tool substitute with no functional change</td>
<td>Word processor used as a typewriter</td>
<td>Word process lab report, print out, hand in</td>
<td></td>
</tr>
</tbody>
</table>

ENHANCEMENT

DEBRIEFING
Observation Teams
1. Nicole Roder, Tim Grieves, & Nick Ouellette
2. Rod Earleywine, Dave Vonk & Donita Joens
3. Russ Adams, Steve Barber & Chad Janzen

Trends
Group A
- Many were using substitution, for example, the medium of a whiteboard for projector, or laptop instead of a notebook.
- Interactive reading assignment – this added animations to the reading by clicking on the picture. Things you couldn’t get by using just a textbook.

Group B
- S’s were fair, mostly just notebook stuff.
- Sometimes traded computers for feedback from each other.
• Researching for a paper they’re going to write, or a presentation they’re going to view
• M’s were for presentation we observed, or Google Doc sharing for back and forth feedback
• Bio research – a couple of kids were going out to do research on public water
• For the Redefinition (R) portion, we got this information through conversation with kids on previous days work
  o Were going to use Skype for a debate
  o One student talked about ballistic testing
• Using science technology – sensors, and a tool to measure nutrients

Group C
• 14 notes were in the A category
• Most observation was on research
• What moved it to Augmentation (A) from Substitution (S) was that technology can make it more efficient and possibly more accurate
• Many of the As, with a little attention, could move to M or more
  o An example: Plant sciences kids had taped their own explanation of cell transformation. In the process of sharing, they had taped the white board they drew the illustrations on, then explained it in the video. The tools can be used to go deeper. If they took videos and critiqued, it may have had greater value. If each person had participated it may have had more value also.
• Collaboration was built into the lesson, but maybe not complete. Electronic storyboard was being put together; simple machines, identify, and then explain what it did, then have a picture, then a picture of it working and explain what it was doing. This was done in partners, doing their part, but if the partners weren’t talking, there was no collaboration. Individual group work.
• PowerPoint, doing research, asking a presentation for a history. They were putting together and doing research as they created. Then they had to audio tape it.
• The highest level was in Spanish. They had to compose something about the picture, then record, then post on Weebly, which would be available to group members, teachers.

**Individual Comments**

**Substitution**
• Calculators were used for math, 2 of 24 students used them
• Kids taking notes on laptops
• Teacher using calculator to solve work problems
• Some students using calculators to solve math problems
• Teacher using PowerPoint to present notes for lecture
• Use computer and projector to record transactions
• Students trading computers to view each others work and make suggestions
• Traded computers to provide peer feedback
• Teacher checked fragment sentences on students’ computers
• Page 3 used to type sentence fragments
• Smartboard used for presenting topics on fragments and run-on sentences
• Typed family descriptions into a Weebly – shared with teacher only
• Students viewed pre-made presentations on Smartboard
  o Drawn and narrated illustrations of DNA transformation, etc.
  o 1 group presented live
• Shared sentence fragments with another student
• Teacher was reviewing student assignment worksheet on financial/payroll (electronic worksheet) stored in Live Binder on Moodle
• Answer PDF online
• Student recorded presentation using iMovie to share with class
• Typing presentation
• Students completed Ed’s Monthly Gross pay – taxes = net pay
• PowerPoint comparing colony to modern day life
• Students doing a tutorial on computer of DNA replications, transcription and translation

**Augmentation**

• PowerPoint explained power = work/time
• Used assignment on a PowerPoint. All but 2 of 23 students using laptops. Assignment on Fakebook
• Made a Fakebook page about a historical business failure
• Use Moodle to explain directions
• Research for sources and information
• Students use of computer to spell check
• Use of internet to find sources and information
• Research for sources and information
• Used a Journal article to support your thoughts
• Research paper on isotopes – spell check, grammar, present to class later
• Government debate topics using Legal Information Institute for creating supports to case
• Go to iknowthat.com to learn more
• Students were completing a worksheet on earthquakes. When done they viewed interactive video that reinforced learning
• Ag worksheet online in special education room, completing slides for social studies project
• Supreme Court Debate Project – students doing online research
  o Teacher went through rubric on Moodle using Smartboard
  o Use Google docs for group to share/collaborate
  o Use Live Binders to share and organize information online
• Students were creating electronic storyboards using linoit – Identify simple machines/explain/picture/Example picture with explanation
  o Did with partner (shared doc)
  o Imported images
• In groups, students were researching information to defend the side of the issue they were on, using constitutional amendments
• Students researched answers to an online worksheet by Google search - questions related to agriculture.
• Students watched a simulation of an earthquake on Moodle
• A pair of students created and completed a project using linoit on simple machines – definition/illustrations, used Google, cut & pasted.
• Using linoit – an online cork board – to show understanding of 6 simple tools
• Students were creating a slide show to answer questions. Each slide had to contain video/picture and student audio narration (rubric to guide)
• Researching presentation
• Recording audio for presentation
Modification
• Students used Pearson online book phrase – read – did questions – sent them to teacher
• Interactive reading assignment on Word and PowerPoint
• Spanish web page for each student using Spanish words only with embedded audio
• Students developing their own website
• Multi-media presentation will come in research
• Students will make an oral presentation to share results
• Shared Google document for peer feedback
  ◦ Final paper presenting findings of a students research project
• Shared Google docs for collaboration between student groups
• Teacher requesting the student presentation be emailed to her
• Student narrating a presentation including pictures and sound
• “Students make sure that you share your rough draft with me” (Google docs)
• Keynote presentation shared with the class comparing past to present in specific states
• Students using computer to record their Spanish and sharing this with the teacher
• Used Vocaroo to record speech
• Language arts PowerPoint with audio
• Google docs used to type research paper
• Student using computer to research ERIC
• Students wrote about a topic then read their composition into Weebly to be shared with student groups and with the teacher as well as available to self
• Write and record reading in Spanish on Weebly and share with the teacher
• Using Google docs to work collaboratively and edit projects
• Students created a dialogue about their family, added a photo, and taped a video – emailed to their teacher and students.

Redefinition
• Use of scientific technology to test levels of various properties
• Use of TurnItIn.com to share with the teacher
• Skyped with another school
• Science research projects – own topic of interest PowerPoint or iMovie for summative presentation
• iMovie used to present findings of a students’ research project
• Use of Skype to debate with another high school

Other
• In 4 of 6 classes no technology was used
NEXT LEVEL OF WORK – INQUIRY QUESTIONS

Inquiry Questions
1. What is the purpose of the task, and is that at the forefront, or is the technology?
2. What are the collaborative opportunities with technology?
3. Are there opportunities to collaborate in a quality manner? Do we define what quality collaboration is?
4. Since there was much done with research, what are the essential skills of research that need to be emphasized?
5. What is the advantage of computers versus paper? When creating lesson plans, identify the advantage driving the technology.
6. What is the connection to the reality?
7. Value Beyond School = SAMR is AIW for technology.
8. How do we find the time to collaborate and learn about new technology?
9. Lots of technology is being used. A next step might be WHY are you using that technology? What is the purpose of the technology?
10. What are some guaranteed “go to’s”?
11. Reviewing tools – when it is appropriate to use the tool?
12. Ask your teachers, “What is the lesson that you think is the most substantial, the best one, that you and your kids engage in?” How did you use technology to get there?
13. How can technology help you “check for understanding?”
14. How would you take a specific lesson and move it to another level on the SAMR scale?
15. What is the tipping point for using technology versus not using technology, as it relates to learning?
16. How does technology help you get through to the kids?
17. What skills are kids getting just by using the technology – not necessarily the content, but the ability to use the technology?
18. Are you letting your students truly create? Or are they manufacturing something they were told to create?

Comments
1. Increase Google docs to increase collaboration.
2. Collaborate with area business or other students outside school districts.
3. Consider using Google Earth.
4. Make time to celebrate outstanding projects – highlight on school website, tech fair or assembly to highlight academia.
5. Using technology as a differentiated option for different or struggling learners.
6. Consider flipped classrooms – video lectures.
7. Planning will be critical.
8. AIW first – instruction and engagement first; technology can enhance – it is the tool.

PREDICTIONS
“If you were a student at this school and you did everything you were expected to do, what would you know and be able to do?”

- Kids felt very comfortable with technical terminology (URL, Moodle, Copy & Paste)
- The students are very tech savvy – not intimidated by technology – I’m a learner with technology.
- All kids are able to go to Google Search.
• Creation – if given a task, the kids can create it, they have all learned multiple tools to create something for an end result.

CONNECTIONS TO YOUR OWN WORK
• I’m able to say, I understanding what SAMR is’ it is the AIW of technology.
• I like the bioresearch class. I’d like to have a class like that. Teachers and students would be excited, and it would be authentic (not confined by standards).
• I want to offer a class like the bio class, and teach it. Also to incorporate Bright Bytes.
• I’ve always been suspect of the technology piece. There is a place for technology in education, and technology isn’t the be all/end all of everything. Try to not make mistakes at integrating technology at too high a level. SAMR makes sense.
• I like the idea of a research class. I like the joint government/English project and would like to consider it. The guiding question of how do we encourage the use of technology for the greater good without the box?
• What is the next step for us? I love being in classrooms!
• Nice to simply observe a class, not evaluate it. Learn from the kids.
• Some of the tasks we saw today will not be on SAMR. The task is an A, and will stay an A. The task won’t change. Secondly, how can I help push teachers and kids without the box?

CONSIDERING SAMR IN YOUR DISTRICT?

Contact Rachel Langenhorst at River Valley CSD. rlangenhr@rvcsd.org