Mind Mapping for Deeper Learning

Presented by
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Staunton City Schools
A Little About Me

• Currently teaching Technological Systems at Shelburne Middle School (my 3\textsuperscript{rd} year at SMS)
• Integrated PBL approach teamed with a Physical Science teacher
• 23 years classroom experience
A Little About Me

• My students are part of our BETA PBL program
  Build
  Explore
  Tinker
  Apply
A Little About Me

• The Eric Jensen effect...
Today’s Learning Goals

• What are mind maps?
• Why should I use mind maps?
• How do I make mind maps?
• What are some limitations of mind maps?
• Where can I find mind map resources?
Today’s Learning Goals

And we’ll make a few mind maps together!
What are mind maps?

- Visual maps of thinking processes
What are mind maps?

• In other words

  Graphic organizer
  Synthesis diagram
  Structure diagram
  Web diagram
  Network diagram
  Thinking map
  Cognitive map
  Knowledge map
  Non-linguistic representation
  Tree diagram
  Spider diagram
What are mind maps?

- Tony Busan
- Radial maps
What are mind maps?

- Let’s brainstorm using a Tony Busan model…

happiness
What are mind maps?

• Write one word on each branch…

happiness
What are mind maps?

• Predict: How many of the same words will show up on other mind maps?
What are mind maps?

- Ways to extend...
What are mind maps?

www.biggerplate.com
What are mind maps?

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What are mind maps?
What are mind maps?

What are mind maps?

Why should I use mind maps?

- Neuroplasticity...
Why should I use mind maps?

• **Cells that fire together, wire together**

  Neuroplasticity means that if you perform a task or recall some information, that causes different neurons to fire in concert. It strengthens the connections between those cells.

http://barbarabray.net/2011/11/20/your-brain-on-learning/
Why should I use mind maps?

- Researcher and middle school teacher Judy Willis...saw that her students were more motivated when they knew that they were all fully physically capable of building knowledge and changing their brains.

http://barbarabray.net/2011/11/20/your-brain-on-learning/
Why should I use mind maps?

• She provided a few tips to create a learning environment that encourages students to learn:
  – **Practice, practice, practice.** When students learn content in different ways, repeat an activity and then retrieve that memory they build thicker, stronger, more hard-wired connections in the brain.

http://barbarabray.net/2011/11/20/your-brain-on-learning/
Why should I use mind maps?

– Put information in context. Tap into already-existing pathways by recognizing that learning is the formation of new or stronger neural connections. Stop rote memorization of isolated facts. Facilitate students connecting the dots and how the concept they are learning is related to past experiences and the real-world.

http://barbarabray.net/2011/11/20/your-brain-on-learning/
Why should I use mind maps?

– Let students know that this is how the brain works. Intelligence is not predetermined especially for students who believe they are ‘not smart.’ If students realize they have the power to change their brains, they will be empowered to learn more and in different ways.

http://barbarabray.net/2011/11/20/your-brain-on-learning/
Why should I use mind maps?

“Visual processing doesn’t just assist in the perception of our world. It dominates the perception of our world.”

John Medina
Why should I use mind maps?

Mind maps…

• Encourage arrangements of ideas
• Appeal to all learners over five years of age
• Allow new ideas to be added quickly and easily
• Can be applied to all content areas
• Are fun and easy to create
Why should I use mind maps?

The brain pays attention to…
• Color
• Size
• Orientation
• Movement
Why should I use mind maps?

Mind maps are...

• Learner centered
• Constructivist
• Creative
Why should I use mind maps?

When making visual maps we…

• Activate prior knowledge
• Document new ideas
• Reflect on our thinking
• Analyze the structures and connections of the topic
• Add to our existing schema
• Facilitate communication with others
Why should I use mind maps?

Connect the dots... don't just collect the dots!
Why should I use mind maps?

**Traditional Notes**
- Obscure key words
- Are monotonous
- Fail to stimulate the brain creatively
- Waste time by encouraging…
  - Unnecessary noting
  - Reading and rereading unnecessary notes
Why should I use mind maps?

**Traditional Notes**
- Obscure key words
- Are monotonous
- Fail to stimulate the brain creatively
- Waste time by encouraging...
  - Unnecessary noting
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**Mind Maps**
- Emphasize key words
- Are dynamic
- Stimulate the brain creatively
- Discourage...
  - Unnecessary noting
  - Reading and rereading unnecessary notes
Why should I use mind maps?

Mind Maps

• Mimic the brain’s thinking patterns
• Reflect the neuronal networks within our brains
• BAM—Branching Association Machine
Why should I use mind maps?

- Mind maps help reinforce problem based learning
Why should I use mind maps?

- Mind maps are used in business and industry
Why should I use mind maps?

- Mind maps are a great planning tool for teachers
How do I make mind maps?

- The Busan approach
  - Start with a central concept
  - Develop BOIs (Basic Ordering Ideas)
  - Create extended branches based on BOIs
  - Add color, imagery, variety
How do I make mind maps?

• Examples of BOIs include:
  – Chapter headings
  – Specific objectives
  – Most important categories or characteristics
  – Basic questions
How do I make mind maps?

- Busan style maps follow certain “Laws” and have common structural elements.
How do I make mind maps?

• Let’s make a collaborative mind map using a jig-saw approach
How do I make mind maps?

• My students have made mind maps to:
  – Brainstorm

happiness
How do I make mind maps?

• My students have made mind maps to:
  – Document learning
How do I make mind maps?

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  – Document learning
How do I make mind maps?

• My students have made mind maps to:
  – Plan presentations and writing
How do I make mind maps?

• My students have made mind maps to:
  – Reflect on labs
How do I make mind maps?

- My students have made mind maps to:
  - Synthesize experience and knowledge
How do I make mind maps?

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How do I make mind maps?

• To scaffold mind maps you might provide:
  – Wire frames
  – Central statements
  – Guiding questions
  – Task cards
  – Word banks
  – Image banks
  – Exemplars
What are some limitations of mind maps?

• Time
• Some learners prefer more sequential approaches
• Documents can be large
• Some learners don’t like to draw
• Uniqueness can make them hard to read or translate
• “Gilding the lily”
What are some limitations of mind maps?

<table>
<thead>
<tr>
<th>DIGITAL</th>
<th>PAPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactive</td>
<td>No devices needed</td>
</tr>
<tr>
<td>Easily shared</td>
<td>Highly personal</td>
</tr>
<tr>
<td>Online collaboration</td>
<td>Can be hard to read</td>
</tr>
<tr>
<td>Images readily available</td>
<td>Kinesthetic possibilities</td>
</tr>
<tr>
<td>Hard to see entire map</td>
<td>Easier to see entire map</td>
</tr>
</tbody>
</table>
Where can I find mind map resources?

http://www.conciselearning.com/mindmapping.html

http://www.tonybuzan.com/

http://www.ascd.org/books-publications.aspx

http://barbarabray.net/2011/11/20/your-brain-on-learning/

http://www.ascd.org/books-publications.aspx
Where can I find mind map resources?
Questions and comments?

• Feel free to contact me at: wzink@staunton.k12.va.us
• Check the back of your reflection mind map…
Thanks for coming today!

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