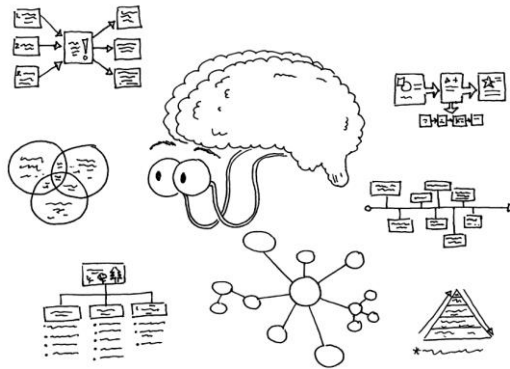


Technology & Assessment: Visual Thinking Tools

Visual thinking is the effective combining of images and texts to demonstrate understanding, to communicate and explain, and to solve problems. Visual Thinking Tools (VTT's) can be any digital or analogue tools that can support students in combining text and images to represent their knowledge, understanding, and ideas.



Visual Thinking Tools combine text and images.

There are many types of visual thinking tools available for students, from concept maps and organizers that can be filled in by hand, to high powered apps and software that can be used on an array of devices. Many of these tools, like **Kidspiration** and **Inspiration**, are full-featured and have been around for a long time. These conventional tools also offer apps which can be downloaded and used on BYOD or school devices. Others, like the apps' XMind (<https://www.xmind.net/>) and Evernote (<https://evernote.com/>) are newer tools designed for more specific uses. Regardless of the digital tool, there is plenty of research to support the use of Visual Thinking Tools to visually represent information.

Visual thinking tools can facilitate learning across academic areas and benefit students of all ages and learning abilities. These tools can be used for:

- building background knowledge (linking of new ideas to previous knowledge)
- constructing knowledge (connecting ideas and concepts to each other and to visuals)
- fostering and supporting collaboration
- creating a product (representing the conceptual structure of knowledge)

- formative or summative assessment (to identify, monitor, and communicate student understanding)

Visual thinking tools can be used in the classroom to collect evidence of student achievement of learning outcomes, as students can:

- plan and revise writing
- brainstorm and plan for writing, presentations, research projects, or multimedia projects
- create an outline or hierarchical representation of information
- demonstrate knowledge prior to and/or after a learning task
- facilitate self-reflection and metacognition
- review a unit of study
- present learning in a visual manner
- express ideas and experiences
- compare and contrast ideas, and show relationships or connections between ideas and/or information
- synthesize information into categories
- record and categorize information from multiple sources
- create an advanced organizer for note-taking in class and for research projects
- assess students' understanding of text, concepts, or experiences by asking them to create a concept map of the information.

Some Assessment Questions (and Food for Thought!) to Consider When Using VTT's:

How can we use VTT's do determine that learning has occurred?

- It is important to remember that we should not just use visual thinking tools for the sake of using visual thinking tools. It is important to align the method of assessment with what the learning outcome(s) is specifically trying to measure.

How can VTT's support the (specific) learners in my classroom?

- For example, if a student has difficulty with written expression, they may use a VTT to capture their understandings of a science topic in point form within a concept map. As

long as the learner outcome doesn't specifically require a written response, it is appropriate to gather evidence of student learning in this manner. The VTT could be combined with a conversation with a student in order to gather a more complete picture of student learning.

How will we gather evidence of learning using VTT's?

- Plan with the end in mind! Start your planning with the outcome you want to uncover with your students. How can VTT be used to support students in accurately demonstrating their understanding of the specific outcomes?

How can students use VTT's to practice skills and develop understanding?

- VTT is an excellent tool to help support students in practicing and organizing their thinking. VTT are an engaging formative assessment tool, and a fun and interactive way for students to practice skills.

How will students receive feedback on their VTT's?

- As with any formative assessment tool, there are a variety of ways (from a variety of sources!) for students to receive feedback. Checkout Digital Feedback Tools for examples. (Embedded LINK)

How will we use VTT's to provide formative assessment evidence (in order to adjust instruction/learning)?

- Any assessment tool, digital or analogue, should be used by first asking yourself, "why am I using *this* tool as the method to gather evidence on *this* specific learner outcome?" Planning with the end in mind is important to keep in the forefront as we should not just use visual thinking tools for the sake of using visual thinking tools.

How can VTT's be used as a final product for summative assessment?

- Be mindful that if you're using VTT as summative assessment that it accurately reflects learning outcomes. While the use of VTT is an excellent tool to assess 'big ideas', be mindful to not focus on low level ideas such as 'neatness', as there may lack specific outcomes that correlate.

As assessors, our goal is to ensure that the conditions exist whereby **EVERY** student in our classroom can best represent what they know, understand, and can do.

Visual Thinking Tools can provide a critical link to help support our most vulnerable students!

The **Learning Technologies: Information for Teachers** website has information and support materials for a number of different assistive technologies. Check it out!

Examples of VTT's in Action <http://www.learningtechnologiesab.com/videos-learning-guides/>

Check this out too!

- [A periodic Table of Visualization Methods](#)

**Note: All the links provided in this resource are for convenience only; AAC does not guarantee the content or accuracy of the sites.