Visual Thinking Tools
Middle Level Implementation Handbook

Introduction

Visual thinking tools are a powerful way to organize ideas and they provide clarity. With this clear visualization of thinking, we are better able to enhance student’s perspective taking. Students are becoming equipped with the tools necessary to communicate their thinking with others and serve as a way to mediate discussions. To prepare for the demands of the 21st century, Shmoker (2011) suggests students need: adequate amounts of subject-area content, concepts and topics; intellectual and thinking skills (such as argument, problem solving and drawing conclusions); and lastly authentic literacy including reading, writing and discussion. As the demands are high, these visual thinking tools will enhance comprehension and critical thinking for students to be successful. In a concrete way, visual tools can be used to enhance reading comprehension by encouraging students to interact with text. This handbook is a collection of visual thinking tools and mini-lessons for their implementation.

How does this work?

Each of these tools should be selected purposefully based on the text structure. These visual tools are all student created within their own notebooks or on larger chart paper of their choice. This is an essential difference between Visual Thinking Tools and Graphic Organizers. These are not pre-determined structured with a specific number of connections, boxes or bubbles. Students are not limited to what is provided for them, rather they are responsible for generating the structures themselves, in a way that responds fluidly to the text.

This handbook provides the introduction mini-lesson of six visual thinking tools. The learning targets in this handbook reflect that. As the students become more comfortable and familiar with the visual thinking tools, the learning targets will evolve and develop in complexity throughout their usage. Ultimately, the best use of these visual thinking tools is as often as possible for students to be able to adapt and modify them to fit their needs and enhance their critical comprehension of texts. The Power and Purpose description of each tool will describe how each visual thinking tool will be used to promote critical literacy practices and better prepare students for the demands of the 21st century.

TABLE OF CONTENTS

1. Sequencing
2. Cause & Effect
3. Box & Bullets (Main Idea & Supporting Details)
4. Categorizing
5. Telling
6. Compare & Contrast
Sequence Walk Mini-Lesson:

Power & Purpose:
This is a visual thinking strategy for before, during and after reading to for powerful critical literacy as it challenges students to map their text sequentially, activate prior knowledge, make connections and provide an opportunity for students to develop and track their metacognitive processing. As a student’s track their prior knowledge, misunderstandings and new information as they read the text, they are deepening their understanding. After reading, students are able to see their text visually in their sequence walk, they are able to reflect on their notes and add additional thought bubbles throughout their map that serves as a placeholder for their thinking.

Text Structure:
Sequencing

Materials:
- Document Camera
- Non-Fiction Text

Learning Target:
I can use the sequence walk visual thinking tool to map the text sequentially and to track my thinking.

Connect
“We have been working on trying different tools that help us dig deeper in our texts. Today, we are going to try a strategy that helps us to track the sequence of our text. This is a powerful strategy that we will be able to use before, during and after our reading.”

Teach
“In the sequence walk, we want to visually outline the section of reading or to help up map the sequence of a narrative. Today, I am going to show you how this visual thinking tool works with our new section of reading in our textbook.

Students, begin by writing the first heading in your notebook, draw a bubble around this. Draw lines off of the heading to write and connect any prior knowledge you have about the heading. Draw an arrow to the right, this shows the linear movement of the text to the next heading. Again, write the heading and bubble it. Write connecting information and continue on
through the rest of the text. When you are ready to read the section, add new information and cross off mis-information.

...As you become more familiar with this tool, you can add thought bubbles throughout your sequence walk to show your personal reflections.”

Active Engagement
“Let’s get started together on a sequence walk for our section from our textbook.” This portion of the lesson allows the students to try what we’ve taught, or to imagine themselves trying it. This active involvement phase often involves children practicing the strategy on a whole-class text, and it often involves them talking with a partner.

Link
“Now it’s your turn to get started doing that right here on the rug. Once you are started, you can get up silently and go to your work space.”

Independent Work Time
Students continue the sequence walk on their own or with a partner as they continue to read the text selection.

Share
“Today you worked on implementing a new strategy to collect your thoughts on a section of reading from your text. I would like for you to turn and talk to your partner, what information did you add during your sequence walk”
Power & Purpose:
This is a visual thinking strategy for during and after reading for powerful critical literacy. This tool allows students to see the main event or main topic that they are analyzing in the middle. They will think critically about the events that led to that event, or the causes. They will map this on the left-hand side, providing as many bubbles as necessary to support their reasoning. Arrows, pointing towards the central idea, indicate the understood connection. Arrows pointing to the right on the right-hand side of the central idea indicate the effects or outcomes of the event. The number of these bubbles, too, will vary based on the number of details that are found in the text.

Text Structure:
Cause and Effect

Materials:
- Document Camera
- Non-Fiction Text

Learning Target: I can organize evidence of causes and effects of an event by using a visual thinking tool.

Connect
“We have been working on trying different tools that help us dig deeper in our texts. Today we are going to try a strategy that helps us to organize and understand what causes an event to happen, and also the effects or aftermath of an event.”

Teach
“Students, begin by writing the name of the event in a bubble in the middle of your notebook page. On the left side you will collect evidence of the causes. What helped to spark this event to happen? Draw arrows to link the causes to the event in the center. On the right-hand side, you will write the effects of the event. What were the ripple effects that were caused by the event happening?

….As you become more familiar with this tool, you can add thought bubbles throughout your sequence walk to show your personal reflections.”
Active Engagement
“Let’s practice an example together.” This portion of the lesson allows the students to try what we’ve taught, or to imagine themselves trying it. This active involvement phase often involves children practicing the strategy on a whole-class text, and it often involves them talking with a partner.

Link
“Now it’s your turn to get started doing that right here on the rug. You will need to complete your reading before beginning your visual thinking tool. But it might be helpful to get your page in your notebook set up and ready to go. Once you are ready, you can get up silently and go to your work space.”

Independent Work Time
Students continue the cause and effect visual thinking tool on their own or with a partner as they continue to read the text selection.

Share
“Today, you worked on implementing a new strategy to identify the causes and effects from the text. Tomorrow we are going to use our visual thinking tool to help us write a short essay. Turn and talk to your partner to share what you collected, add any new ideas from your partner.”
Box & Bullets

Power & Purpose:
This is a visual thinking strategy for after reading for powerful critical literacy as it challenges students to map the main idea and supporting details from the text. Citing text evidence to support a claim is a reoccurring standard throughout the common core. This is essential groundwork for students to be able to discuss, debate and craft compelling arguments. The box and bullets visual thinking tool supports important writing standards, especially writing arguments focused on discipline-specific (CCSS.ELA-LITERACY.WHST.6-8.1).

Text Structure:
Any

Materials:
- Document Camera
- Non-Fiction Text

Learning Target: I can organize the main idea and supporting details of text by using a visual thinking tool.

Connect
We have been working on trying different tools that help us dig deeper into our texts. Today we are going to try a strategy that helps us to capture the main idea and supporting details after reading a text.

Teach
Students, begin by creating a long rectangle across your page. This is the box, where we will have boxed in our main idea. It is essential to have strong text-evidence to support your main idea. We will bullet point the compelling supporting details underneath the box. This visual thinking tool is very simple, but the hard work will come with identifying the main idea of the article and finding the best supporting details.
Active Engagement
“Let’s get started together on an example box & bullets from the article we read and discussed yesterday. What was the main idea? .... Let’s work together to name three strong supporting details for our claim.” This portion of the lesson allows the students to try what we’ve taught, or to imagine themselves trying it. This active involvement phase often involves students practicing the strategy on a whole-class text, and it often involves them talking with a partner.

Link
“Now it’s your turn to get started reading your new article and creating a box and bullet’s visual thinking tool. Once you are ready, you can get up silently and go to your work space.”

Independent Work Time
Students continue reading and creating their visual thinking tool on their own or with a partner.

Share
“Today you worked on implementing a new strategy to collect your thoughts on a section of reading in your textbook. I would like for you to turn and talk to your partner. I would like for you to retrace your visual thinking tool to tell your partner what went well, and what challenged you in your work today?”
Categorizing

Power & Purpose:
This is a visual thinking strategy for after reading for powerful critical literacy as it challenges students to sort and categorize the information and list the key ideas. It requires student reasoning and their application of knowledge. This kind of thinking lays the groundwork for students to be able to use their knowledge to classify (categorize, sort, group and give examples) which transitions towards using knowledge to solve problems, plan and make decisions.

Text Structure:
Categorical

Materials:
- Chart paper & markers
- Non-Fiction Text

Learning Target: I can sort information into categories using the categorizing visual thinking tool.

Connect
We have been working on trying different tools that help us dig deeper in our texts. Today, we are going to try a strategy that helps us sort our information into different categories.

Teach
Students, we are going to start by boxing the topic on the top of our page. From the topic, we are going to have arrows towards the different categories from our topic. Underneath these category bubbles, we are going to make a bullet-pointed list of key details and characteristics of the category.
Active Engagement
“Let’s practice an example together.” This portion of the lesson allows the students to try what we’ve taught, or to imagine themselves trying it. This active involvement phase often involves children practicing the strategy on a whole-class text, and it often involves them talking with a partner.

Link
“Now it’s your turn to get started doing that right here on the rug. You will need to complete your reading before beginning your visual thinking tool. But it might be helpful to get your page in your notebook set up and ready to go. Once you are ready, you can get up silently and go to your work space.”

Share
“Today you worked on implementing a new strategy to collect your thoughts on a section of reading in your textbook. I would like for you to turn and talk to your partner. I would like for you to retrace your visual thinking tool to tell your partner what went well, and what challenged you in your work today?”
**Power & Purpose:**
This is a visual thinking strategy for before and after reading for powerful critical literacy as it allows students to activate their prior knowledge by naming all that they know about a topic. Students are able to revisit this same tool after reading to correct any misunderstandings and generate more key ideas associated with a topic.

**Text Structure:**
Any

**Materials:**
- Document Camera
- Non-Fiction Text

**Learning Target:** I can use a telling visual thinking tool to name key ideas associated with a topic.

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**Connect**
*We have been working on trying different tools that help us dig deeper in our texts. Today we are going to try a strategy that helps us to activate our background knowledge on a topic*

**Teach**
*Students, begin by writing the name of the topic in bubble in the middle of your notebook page. Before diving into reading, this is a great strategy to see what we already know about a topic. In bubbles surrounding the topic, write any related facts or ideas that you know. Some of you may recognize this strategy and call it something like a spider web or mind map, we will simply refer to this as our telling visual thinking tool.*
**Active Engagement**

“*Let’s practice an example together.*” This portion of the lesson allows the students to try what we’ve taught, or to imagine themselves trying it. This *active involvement* phase often involves children practicing the strategy on a whole-class text, and it often involves them talking with a partner.

**Link**

“*Now it’s your turn to get started doing that right here on the rug. You will need to complete your reading before beginning your visual thinking tool. But it might be helpful to get your page in your notebook set up and ready to go. Once you are ready, you can get up silently and go to your work space.*”

**Share**

“*Today you worked on implementing a new strategy to collect your thoughts on a section of reading in your textbook. I would like for you to turn and talk to your partner. I would like for you to retrace your visual thinking tool to tell your partner what went well, and what challenged you in your work today.*”
COMPARE & CONTRAST

<table>
<thead>
<tr>
<th>TOPIC #1</th>
<th>SIMILARITIES</th>
<th>TOPIC #2</th>
</tr>
</thead>
</table>
| • Difference #1  
• Difference #2  
• Difference #3 | • Similarity #1  
• Similarity #2  
• Similarity #3 | • Difference #1  
• Difference #2  
• Difference #3 |

Power & Purpose:
This is a visual thinking strategy that requires students’ reasoning skills. The students will use their knowledge of the content to distinguish between similarities and differences to compare and contrast two topics. Most students are familiar with the Venn Diagram tool for this same work. This is another way for students to visualize comparing and contrasting topics. Students should select the tool that fits best with their way of thinking. Some students may benefit from this more linear structure in comparison to the traditional Venn Diagram model.

Text Structure:
Any

Materials:
- Document Camera
- Non-Fiction Text

Learning Target: I can use a compare and contrast visual thinking tool to distinguish between the similarities and differences of two topics.

Connect
We have been working on trying different tools that help us dig deeper in our texts. Today, we are going to try a strategy that helps to compare and contrast two topics after reading.

Teach
Students, I’m sure you are familiar with a Venn Diagram. Raise your hand if you have used a Venn Diagram before as a visual thinking tool for comparing and contrasting. Ok, good. Well, this is the same kind of idea. In this version we are going to make three columns. The columns on the left and the right will be for the unique characteristics of each topic. In the middle, this is where we will put the similarities.

Active Engagement
“Let’s practice an example together.” This portion of the lesson allows the students to try what we’ve taught, or to imagine themselves trying it. This active involvement phase often involves children practicing the strategy on a whole-class text, and it often involves them talking with a partner.
**Link**

“Now it’s your turn to get started doing that right here on the rug. You will need to complete your reading before beginning your visual thinking tool. But it might be helpful to get your page in your notebook set up and ready to go. Once you are ready, you can get up silently and go to your work space.”

**Share**

“Today you worked on implementing a new strategy to compare and contrast two different topics. I would like for you to turn and talk to your partner. I would like for you to retrace your visual thinking tool to tell your partner what went well, and what challenged you in your work today?”
Sequence Walk

Learning Target: I can use the sequence walk visual thinking tool to map the text sequentially and track my thinking.

Figure 1: Sequence walk anchor chart
Figure 2: This is a student example of a sequence walk. Students worked collaboratively in groups of four to map the sequence of the Ojibwe migration story.
Figure 3: Cause and effect anchor chart

Learning Target: I can organize evidence of causes and effects of an event by using a visual thinking tool.

cause #1 → Event → effect #1
cause #2 → Event → effect #2
cause #3 → Event → effect #3
cause #4 → Event → effect #4
I can name the causes and outcomes of the Dakota & Ojibwe peace agreement.

Figure 4: This is a student example of a cause and effect visual thinking tool. During this lesson, I provided the event in the center as a scaffold to support students using this tool for their first time. The students were able to generate their own understandings of the causes and effects.
Box & Bullets

Learning Target: I can identify the main idea and supporting details of a text and organize them using a visual thinking tool.

Box (Main IDEA)

• Supporting detail #1
• Supporting detail #2
• Supporting detail #3

Figure 5: Box and bullet anchor chart for identifying the main idea and supporting details of a text.
Figure 6: This is a categorizing visual thinking tool. I provided the topic and categories as scaffolding for my students first time using this visual thinking tool. The students generated characteristics for each of the categories in each of the small groups.
Learning Target: I can sort information into categories using the categorizing visual thinking tool.

Figure 7: Categorizing visual thinking tool anchor chart.
Figure 8: The most intuitive visual thinking tool in the toolkit. This is the "telling" visual thinking tool anchor chart.

Learning Target: I can use a telling visual thinking tool to name key ideas associated with a topic.
Figure 9: Cause and effect visual thinking tool for the fur trade. Students recalled causes and effects and I captured their ideas on the easel. Students recorded our shared visual thinking tool in their social-studies notebooks. Students later expanded.
Figure 10: A linear approach to a venn-diagram, this is the compare and contrast anchor chart.

**Learning Target:** I can use a compare and contrast visual thinking tool to distinguish between the similarities and differences of two topics.

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<th>Similarities</th>
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