Bifocal Assessment:
Combining Teaching and Learning with Thinking Maps®

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Critical Transformations
Background

Thinking Maps® is a language, or toolkit, of eight thinking-process maps, developed by David Hyerle. Each map is graphically consistent and flexible so that students may easily expand the map to reflect the content pattern being learned. Thinking Maps® are introduced to students as tools for reading and writing, content-specific learning, and for interdisciplinary investigations. Over time, students learn to use multiple maps together and become fluent in choosing which maps fit the immediate context of learning. Thinking Maps® and Thinking Maps® Software are used in whole schools through faculty training and follow-up.

Basic Techniques

- Begin with an application of each of the maps to a concrete object to be able to understand the relationship between thinking processes and Thinking Maps®.
- Expand each map to show the big picture and then prioritize information by deleting ideas from maps for reading comprehension and writing.
- Use multiple maps together to construct related patterns of learning, and use “frame” to identify frames of reference.

Novice

is able to identify the thinking process related to each map and use single maps for different content tasks.

Apprentice

is able to use multiple maps together to develop a product, such as writing an essay.

Practitioner

is able to independently choose and fluently apply the maps in cooperative groups.

Expert

is able to independently use the frame of reference with the other maps to self-assess learning.
it is strange that we are friends because we are also different in many ways. We do look a bit funny together. I am very tall and Marcus is very short. I would rather talk than write down ideas. I also really love to play sports. Marcus enjoys writing much more than playing sports. I guess that is because Marcus can be a bit clumsy! But not with his hands! He is always making some sort of invention. I can't seem to make anything, but I can make a friend!

What Thinking Map? Double Bubble Map
What thinking skill? Compare - Contrast
Paragraph 8. Changing Your Mind

Marcus and I became BEST friends when I helped him with a BIG problem. He is not very good at sports, but his Dad is always watching sports on T.V. Not Marcus. One day our teacher told us that the soccer team tryouts were coming up. At recess, two boys started teasing Marcus saying, "Hey, Marcus, why don't you try out for the team. Ha! You couldn't make it as the water boy!" Marcus was mad! After school he told the soccer coach, "Put my name on the list for the tryouts." I saw Marcus the next day and he looked very upset! He told me he was thinking about what made him sign up and about what might happen at the tryouts. I asked, "Do you really want to be on the soccer team?" After a few days he returned to the coach saying, "Please take my name off of the list. I was going to tryout for the team for other people, like my Dad, and not for myself."

What Thinking Map? **Multi-Flow Map**
What thinking skill is used? **cause - effect**
Paragraph 6. The Mind of Marcus

I think Marcus is very creative. He went on a field trip to the zoo last week and just loved the lions. All he could talk about was how lions remind him of how he roams around his own house. He told me that lions live in dens, just as people live in houses. And then he said, "Ants live in ant hills, monkeys live in trees, bees live in hives, and ideas live in my mind!" How do ideas live in minds?

What Thinking Map? Bridge Map
What thinking skill is used? opposite
In the space below, use thinking maps to show what you have learned about the topic you have been studying:

Atom, electrons, protons, neutrons, nucleus, protons, neutrons

mattress, pencil, hair, water, table, chair, sneaker, air
Please answer these questions on another sheet of paper:

1. Look at your map(s). What are the most important things you know about this topic? D
   EMOCRACY, HELP IN HARMONY.

2. What don't you know? What new questions do you have about this topic?

In the space below, use one or more of the thinking maps to think about what you know about the topic you will be studying.

THINKING ABOUT:

The United Nations

Name: [Blank]
Date: [Blank]
<table>
<thead>
<tr>
<th>EXPAND</th>
<th>Minimum</th>
<th>Attending</th>
<th>Participating</th>
<th>Effective</th>
<th>Reflective</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLARIFY</td>
<td>very few connections</td>
<td>multiple connections</td>
<td>multiple concepts are shown with details</td>
<td>thematic and interdisciplinary connections are shown</td>
<td>personal, interpersonal, and social implications are recorded</td>
</tr>
<tr>
<td></td>
<td>use of only one Map</td>
<td>few supporting details are shown</td>
<td>multiple Maps are used</td>
<td>connections are shown between multiple Maps</td>
<td>frame is used to establish point of view and value of Map</td>
</tr>
<tr>
<td></td>
<td>bits of information are isolated, unorganized</td>
<td>different kinds of information are provided</td>
<td>patterns in Maps are developed</td>
<td>central ideas are highlighted for application</td>
<td>hypotheses are generated</td>
</tr>
<tr>
<td></td>
<td>irrelevant information is included</td>
<td>details are shown in relation to general concepts</td>
<td>details are sorted</td>
<td>several Maps are coordinated for use in final product</td>
<td>multiple perspectives are shown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>general concepts are fully supported with relevant details</td>
<td>fundamental misconceptions are resolved</td>
<td>limitations of Map(s) are suggested</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>integration of prior knowledge and new information is shown</td>
<td>novel applications are created</td>
<td>self-assessment is initiated</td>
</tr>
</tbody>
</table>

**DESCRIPTION**

1. The student is demonstrating a simplistic level of understanding of content and/or limited effort.
2. The student is attending to the task and demonstrates a basic grasp of content and information.
3. The student is actively engaged with thinking about content and is beginning to integrate and initiate new ideas.
4. The student is strategically synthesizing information with a focus on organizing central ideas and details for meaningful applications.
5. The student is seeking a deeper understanding of knowledge by recognizing multiple interpretations, implications, and limitations of work.
Content Area: Social Studies

Topic: Early NY State History, Native Americans indigenous to NY

Standards: E2a, E5a,

Thinking Maps: Tree, Double Bubble, Flow

Product: Compare and Contrast Essay

Teacher: H. Fox
School: PS 60 Q
Grade: 4

Purpose (Guiding Questions)

What makes or shapes a culture?
How are early inhabitants of New York State alike and different?

Activity 1:
What smaller groups made up the Iroquois and Algonquin groups?

Use a tree map to categorize the tribes in New York State.

Activity 2:
What were the cultures of the groups like? What did they celebrate, wear, do, etc?

Read some information about these groups and organize it into categories on Tree maps. Construct two tree maps: one for the Algonquins and one about the Iroquois.
Activity 3:

Now that you have some information about each group, use a Double Bubble to compare and contrast the cultures.

Product: Comparative Essay
(E2b: advances a judgment that is interpretive, analytic, evaluative, or reflective.)

Look at your Double Bubble map to answer the following 3 questions. Write 3 reasons to prove your answers.

Are the Algonquins and Iroquois more similar or different? Why do you think they are more similar or different? What do you think are their most important differences?

Product: Expository (Writing to Inform)
(E2a: report that analyzes subject and provides facts)

Write a 3 paragraph essay to inform others about the Algonquins and Iroquois. Use a Flow map to plan the paper.
Iroquois

Homes
- long houses
  - made out of saplings
  - tied wood with vines
  - outside covered with bark
  - hole in top for fire

Iroquois customs
- fertilized soil with tree ash

Family Life
- Men
  - hunt
- Women
  - cook
  - chores
  - hung food out to dry
Algonquin

Homes
- round houses
- one family per house

Customs
- maple festival

Family life

- joined other tribes and moved west
- wore clothing from animal skins
- rubbed bear grease in hair to make it shiny

One family Thanksgiving per house joined other tribes and moved west. They wore clothing from animal skins and rubbed bear grease in hair to make it shiny.
Iroquois
- 10 families per house
- carried babies in a pouch
- wore animal skins
- long houses

Algonquin
- celebrate nature
- celebrate Spring planting
- don't go to school

NY Native Americans
Introduction

two main tribes where they lived

Iroquois Lifestyle

housing families clothing

Algonquin Lifestyle

housing family clothing

Differences and Similarities

marriage women's duties celebrations

NY Native Americans
There are two major Native American groups that lived in NY state. They are the Iroquois and Algonquins. One group, the Iroquois came from the Adirondack Mts. and lived with western NY tribes including: Erie, Seneca, Onondagas. The other group, the Algonquins lived near the Mohawk river, Hudson River, with some tribes including: Adirondacks, Mohicans, Delawares, and Wappingers.

The Iroquois lived in long houses. They carried babies in a pouch. They honored the Great Spirit. They wore animal skins as clothes.

Algonquins lived in round houses with one family per house. They celebrate spring planting. The women planted with the girls and the men hunted with the boys.

The Iroquois and Algonquins were different in many ways but they were also very much alike. The thing I learned is that somebody from a clan can only marry someone from that same clan. They both have women plant while the men hunt. They both celebrate the same festivals and where the same things.