CREATING A CULTURE OF THINKING THROUGH LANGUAGE

Dr. Alain Gholam, Ed.D
Assistant Professor of Education
American University in Dubai
VISUAL THINKING ROUTINE: I SEE, I THINK, I WONDER

Take a minute to carefully observe the upcoming image.

Share with the colleague sitting next to you:

- What do you see?
- What do you think?
- What do you wonder?
Painter: Rembrandt Harmenszoon Van Rijn
Essential Question (1): What are visual thinking routines?

1). Visual thinking routines are classroom learning experiences utilized to make thinking visible.

2). According to Harvard Project Zero, visible thinking is a flexible and systematic research-based approach to integrating the development of students’ thinking with content learning across subject matters.

Source: http://www.visiblethinkingpz.org/VisibleThinking_html_files/VisibleThinking1.html
VISUAL THINKING ROUTINES.... HOW?

Essential Question (2): How are visual thinking routines implemented in the classroom?

Tools  Structures  Patterns of behavior

Source: Ron Ritchhart et al. (2011). Making Thinking Visible
VISUAL THINKING ROUTINES.... HOW?

Different routines that serve different purposes:

- Routines for Introducing and Exploring ideas
- Routines for Synthesizing and Organizing Ideas
- Routines for Digging Deeper into Ideas

Source: Ron Ritchhart et al. (2011). Making Thinking Visible
Essential Question (3): Who implements visual thinking routines?

Visual thinking routines are used by:

- Teachers
- Students
- Coordinators
- School Administrators

They are simply used by anyone who wants to promote a culture of thinking.

Source: http://www.visiblethinkingpz.org/VisibleThinking_html_files/VisibleThinking1.html
VISUAL THINKING ROUTINES.... WHY?

Essential Question (4): Why implement visual thinking routines?

Observe the pictures carefully and brainstorm why.
<table>
<thead>
<tr>
<th>Colour</th>
<th>Symbol</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>boy</td>
<td>Image</td>
</tr>
<tr>
<td>Red</td>
<td>girl</td>
<td></td>
</tr>
</tbody>
</table>

We chose blue first because it represents bias towards boys in science. We chose pink to show that we need to equalize the gender disparity.

We specifically switched the colours to show that we need to move from gender bias. We are socialized to think that blue is for boys and pink is for girls.

We chose the weighing scale to represent the need for gender equality in science education.
Project Based Learning promotes developing 21st-century skills and develop transformation of knowledge to real life.

Project Based Learning is a scientific process of learning, starting with a question, incorporating critical thinking, collaboration, and communication, resulting in an end product (something it is  property).

Project Based Learning is a cycle of teaching methodology that promotes authentic, 21st-century skills, analytical & inquiry skills in students.

Connections:
Area & side of Squares
Connected to perfect squares and square roots.
Concrete materials help students get their hands as well as their minds.

Concepts:
- Perfect Squares
- Square roots
- Side measuring
- Area
- Manipulatives, hands-on experience

Changes:
- Manipulatives provide deep understanding. Showing the why & how.
- Better understanding about the square root.
- Will use manipulatives in the next square root lesson.

Challenges:
- Multiplication Tables
- Asking manipulatives area of big #s.
- Some students don't prefer to use it.
I used to think that assessment was:
- Tough and complicated
- Limited ways to assess
- All about grading, confused between assessment and evaluation

Observations and tests only.
- Assessment is evaluation

Now, I think that assessment is:
- I know think that assessment is
- Innovative assessments
- Variety of ways to assess
- It can be more authentic
- Focus on 21st Learning Skills
- Very important to remember your purpose for assessing
- Having students display their understanding of the concepts
- Importance of reflection
- Assessment is collecting data while evaluation is the process of making judgement
Societal needs of a 21st Century Learner:
- Critical thinking skills
- Communication skills
- Collaboration skills
- Problem solving skills

Why IBL:
- College and career readiness
- Long term memory
- Thinking through inquiry

Standardized tests
- Have critical thinking?
- Higher order thinking embedded in their questions
- Asking students to:
  - Analyze
  - Integrate
  - Explore
  - Create
  - Apply

New Standards of Rigorous Learning

Amy Kakish
Nitha Ahmed
1. Questioning:
   - Essential foundation
     - Concept-based (Essential 8)
     - First modeled by the teacher
     - Students generate Q's (foundation) that will help them answer the EQ.

2. Planning & Predicting:
   - Generate their hypothesis
   - Create a plan for investigation

3. Investigating:
   - Collecting info
   - Experimenting
   - Hands on

4. Recording & Reporting:
   - Choice of presenting their work
   - Ex: graphs, powerpoint

5. Reflecting:
   - Self-assessment
   - Portfolios
   - Make connections with real-life

6. Share with the world

Prior knowledge motivates them to find out more.
**VISUAL THINKING ROUTINE**

**GENERATE - SORT - CONNECT - ELABORATE**

- **Higher order of thinking (why not only how)**
- **Abstraction**
- **Student engagement**
- **Control of error**
- **Practice to reach**
- **Mastery + solutions**

**Toolbox**

- Concrete handson material
- Self assessment + testing

**Social needs**

- Tenderness
- Playful companionship

**Compensation**

- Assurance of self worth
- Intimacy

**Teacher as a facilitator + observer to evaluate learning**

- Takes care
Essential Question (4): Why implement visual thinking routines?

VTR’s promote:

- deeper understanding of content
- student engagement, interest, motivation, and curiosity
- thinking skills and questioning
- active processing
- collaboration and sharing
- inquiry based learning, problem based learning, and discovery learning
- self reflection
Through visual thinking routines, language becomes a profound power.
Language of thinking

• What do you observe?
• What do you think?
• What do you wonder?
• How are the ideas presented connected to what you already know?
• What new ideas did you get that extended your thinking in new directions?
• What is challenging or confusing to you to get to your mind?

Source: Ron Ritchhart. (2015). Creating Cultures of Thinking
VISUAL THINKING ROUTINES AND LANGUAGE

Language of community

We

as opposed to

They

Source: Ron Ritchhart. (2015). Creating Cultures of Thinking
Language of identity

• We become involved in the learning process.
• We become thinkers, scientists, mathematicians, problem solvers, etc.
• We play an active role in our learning.

We are not passive learners.

Source: Ron Ritchhart. (2015). Creating Cultures of Thinking
Such questions help students recognize that ideas don’t just pop into one’s head – they are under one’s control and influence:

- Tell me what you just did.
- What is your plan for tackling this?
- What do you think you were basing this idea on?
- What makes you say so?

Source: Ron Ritchhart. (2015). Creating Cultures of Thinking
Language of listening

The classroom becomes a lively community that:

- Listens to different thoughts, ideas, viewpoints, and perspectives
- Makes connections to other’s ideas
- Facilitates conversation
- Challenges ideas in an exploratory sense
- Extend the conversation by inviting others in

Source: Ron Ritchhart. (2015). Creating Cultures of Thinking
Whether we like it or not, we can’t teach our students the way we taught fifteen years ago.

We, educators, need to make sure we equip our students with the skills and knowledge they need to successfully face the outcomes of the 21st Century.
Visual thinking routines will promote a classroom culture that reinforces a language of:

thinking, community, identity, initiative, and listening

and allow for deep and enduring understanding.