

# Osseo Area Schools • National Urban Alliance Summer Institute • Grades 3-5

*National Urban Alliance - [www.nuatc.org](http://www.nuatc.org)*

*Robert Seth Price - [www.eggplant.org](http://www.eggplant.org)*

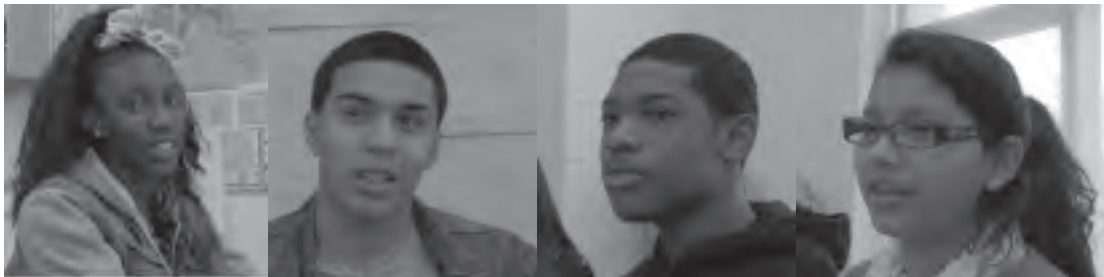
## A CLEAR Approach to the Work

- **Cultural** emphasizes the human purpose of what is being learned and its relationship to the students' own culture.
- **Learning** encourages students to make choices in content and assessment methods based on their experiences, values, needs, and strengths.
- **Equitable** respectful learning environments in which students' racial and ethnic diversity is valued and contributes to successful academic outcomes.
- **Achievement** includes multiple ways to represent knowledge and skills and allow for attainment of outcomes at different points in time.
- **Responsive** through positive relationships, rigorous learning experiences are created involving higher order thinking and critical analysis used to address relevant, real(ness) world issues in an action-oriented manner.

## National Urban Alliance

*High Operational Practices of the Pedagogy of Confidence support and enhance equity:*

- Identifying and activating student strengths
- Building relationships
- Eliciting high intellectual performance
- Providing enrichment
- Integrating prerequisites for academic learning
- Situating learning in the lives of students
- Amplifying student voice



## **National Urban Alliance (NUA)**

National Urban Alliance helps districts provide school leaders and teachers with the opportunity, guidance and voice to identify what practices they need that will help them build on student strengths and engage them in learning essential skills, content and strategies. Since our founding in 1989 at Columbia University's Teachers College with the College Board, the National Urban Alliance for Effective Education (NUA) has provided professional development, advocacy and organizational guidance that transform urban and suburban schools. We are passionate in striving toward a world in which barriers to high levels of learning borne of racism, sexism and economic disadvantage are eliminated for all children.

### **Pedagogy of Confidence**

Our approach is guided by the *The Pedagogy of Confidence*, the fearless expectation and support for the high intellectual performance of all students, especially those who are dependent on the school and community for the skills and support needed to attain high achievement. We uncover strengths of students and teachers and then build on those strengths.

### **Core Beliefs**

We focus on three core beliefs:

- Intelligence is modifiable;
- All students benefit from a focus on high intellectual performance;
- Learning is influenced by the interaction of culture, language and cognition.

### **Cultural Relevance**

It's a given that students and teachers do not always come from the same racial or cultural backgrounds. NUA's focus is on changing teachers' perceptions and expectations of underachieving students in a way that pays particular attention to the cultural dimensions of these differences.

### **Student Voice**

Students are among the first to recognize that there is an enormous gap between their performance and potential. That is why we give students a voice in professional development, instruction and classroom management.



# National Urban Alliance High Intellectual Processes

## Pedagogical Models

- Visual Tools: Thinking Maps and the Frame of Reference
- Questioning for Inquiry: Powerful Questions; Inquiry like a Journalist and Scientist; guiding questions; shared inquiry
- Collaborative Practices: community building, collegial coaching, collaborative learning methods
- Critical Thinking Environment of Equity: Use of space, educators place in space, materials.

## Strategies evolving and building from the models

- writing strategies (e.g. journal, writing from Thinking Maps, summaries...)
- reading strategies (e.g. phonics, vocabulary, CLOZE, etc.)
- anticipatory practices
- reflective practices

## Developing

- patterns in practice that build upon each other
- models of excellence
- developing mastery in models and methods thoughtfully scaffolding the practices

## Visual Tools • Thinking Maps

Visual tools are a means of graphically and visually representing ideas, conceptual relationships and progression paths. They range from the simple spider diagram, flow chart or time line – to more sophisticated models of concept mapping which can be used to explore complex relationships and perceptions. **Thinking Maps**

are a language that provide students with choices of eight visual maps that represent how humans think cognitively (brainstorming; cause/effect; sequence; compare/contrast; categorization; relationships; whole/part; qualities). Each map can be further developed with a frame of reference. Thinking Maps are a critical thinking tool that is most effectively used when students have the ownership of choosing the Thinking Map(s) that best represent their cognitive choice. Thinking Maps organize thinking for understanding, writing, creating presentations, video and seeing each other's thinking. The steps of implementation in a classroom include:

- introducing all eight Thinking Maps to learn the tool using pictures, words and other representations for all grade levels
- Introducing the Frame of Reference for all eight Thinking Maps
- Learning hand symbols for the Thinking Maps
- Students choosing the Thinking Map that best represents how they are organizing their thinking (student centered ownership)
- Teachers able to assess student thinking (rubric)
- Integrating Thinking Maps across all subjects and with practical home applications



## Questioning for Inquiry

- Why do we ask questions?
- Why are questions used by journalists to probe for answers and understanding?
- Why do the sciences use questions for depth of understanding?
- How can questions be used in classrooms as effectively as journalists and scientists in all disciplines and subjects at all age levels?

We ask questions regularly. There are types of questions:

- factual
- evaluative
- interpretive

### *Statements and Questions*

Statements are 'answers' that signal a stop in thinking with a final answer. Questions are a driving force in the process of thinking. One asks questions to stimulate thinking. The art of questions like any skill takes practice of the finer points to achieve mastery. We will focus on bringing questioning into the classrooms critical thinking by scaffolding supportive strategies:

- Powerful Questions
- The Question Game and Questioning in Depth
- Guiding Questions
- Visual Maps and Questions
- Shared Inquiry Classroom Discussions

## Collaborative Methods of Community

By being a collaborative community we open the world to learning with and from one another. Like any learning, intentionality is important with implementation and the methods for learning. The collaborative process includes three key areas:

### ***community building exercises***

Building community exercises is about building the whole community for understanding one another, learning how to collaborate together, developing listening for learning, and other methods of the whole school community to be open to learning with and from one another.

### ***collegial coaching***

Collegial coaching is about teachers creating their own professional coaching community. It is about regularly observing each other throughout the whole school with a focused protocol to support seeing each other's pedagogy. The goal is learning professionally from one another in quest of the finest pedagogy for student outcomes.

### ***collaborative learning methods***

Collaborative learning is a relationship among students (and teachers with teachers) that requires positive inter-dependence (a sense of sink or swim together), individual accountability (each of us has to contribute and learn), interpersonal skills (communication, trust, leadership, decision making, and conflict resolution), face-to-face promotive interaction, and processing (reflecting on how well the team is functioning and how to function even better).

## Vocabulary, Patterns of Language

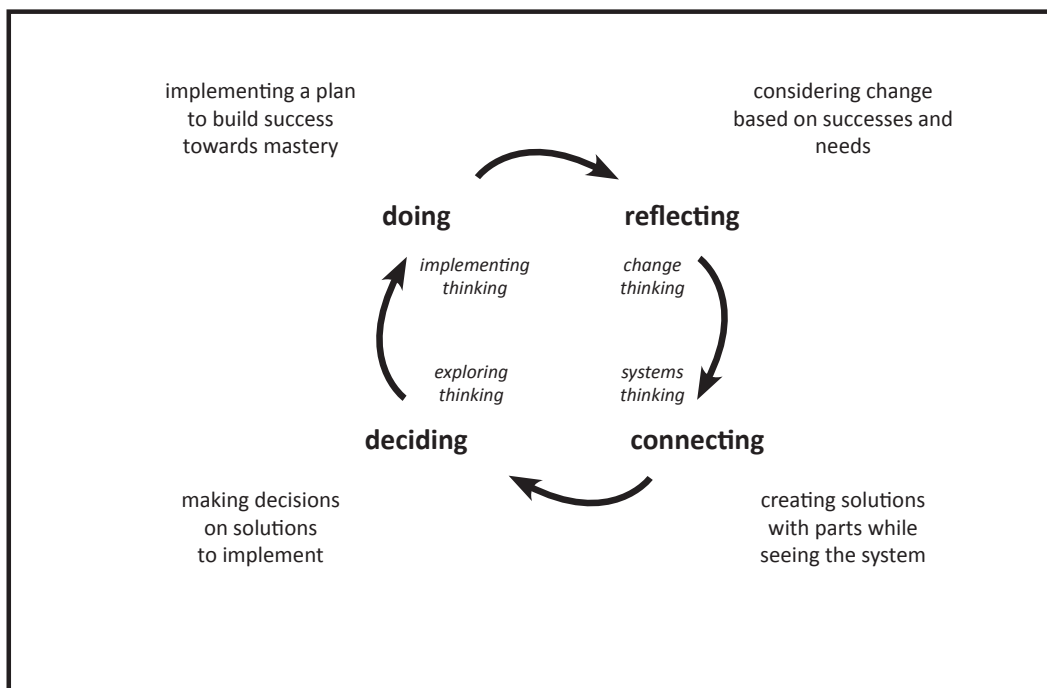
### ***Vocabulary***

Sentence Transformation for Vocabulary Development is a collaborative method to build vocabulary from prior knowledge, readings, schema connections, and peer to peer learning. Sentence Transformation models and develops reading fluency, vocabulary, parts of grammar (nouns, adjectives, adverbs, prepositions, etc.), language and spelling patterns and collaborative learning. Sentence Transformation is a process that involves the whole class and/or small groups in a very participatory activity that builds vocabulary and fluency. It requires minimal resources - a basic chalkboard and/or a wall painted with chalkboard paint. Students can lead the process in addition to the teacher. For the teacher it is an excellent opportunity to model reading with fluency and thinking aloud with vocabulary development (see handout).

### ***Patterns of Language***

The purpose of developing writing from quality patterns in language is consistent with how fine artists and writers build their own style. They start by emulating quality examples that provide models of excellence. The following provides a foundation and sequence for building understanding and success through language structures. With success, interest in writing is heightened for the developing writer. Elements include development through use of prior knowledge, oral language, vocabulary building, visual mapping, working language with pocket charts, Think-A-Loud modeled writing, collective writing, and independent writing. The initial goal is using patterns in language to understand and succeed with language as a foundation leading to quality original writing. And, the power in using patterns is consistent with how the brain constantly seeks patterns (see complete handout).

## Change is a Process



## Questioning for Inquiry

When problem solving and/or visioning, it is important to ask interpretive questions that build upon one another. Interpretive questions are effective both with well planned discussions and in spontaneous situations. Interpretive questions stimulate ideas, communication, understanding and problem solving.

### Types of Questions

- **Factual** - A factual question has only one correct answer.
- **Evaluative** - An evaluative question asks the participants to decide if s/he agree with the ideas or point of view (frame of reference). The answer to an evaluative question depends on the person's prior knowledge, experience, and opinions.
- **Interpretive** - An interpretive question has more than one answer that can be supported with evidence from background knowledge and research. Interpretive questions keep discussions going and require the participants to refer to experiences, knowledge and research.

### Writing Interpretive Questions

Developing quality interpretive questions to guide visioning and problem solving begins with understanding the thinking process. This guides practice and mastery of inquiry to create interpretive questions that guide effective and productive discussions for problem solving.

### Testing the Questions

If a question is open to different possible answers collaborators will be willing to share their input:

- *You should have genuine interest in the question.*  
Collaborators will 'read' your interest (or lack of) in the question.
- *The question should stimulate discussion.*  
The question should create an interest in revisiting the vision and/or problem solving for further understanding.
- *The question should be clear.*  
The collaborators (or patients) should easily understand the question.
- *The question should be specific.*  
The question should fit the topic and not generic to any idea.

### Shared Inquiry

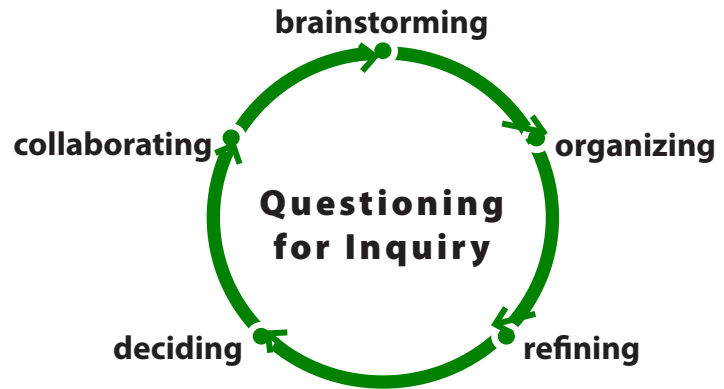
Shared Inquiry is a method of teaching and learning that enables people of all ages to explore the ideas, meaning, and information found in everything they read. It centers on interpretive questions that have more than one plausible answer and can lead to engaging and insightful conversations about the text. It is recommended learning more about Shared Inquiry at The Great Books Foundation website.

## Questioning for Inquiry

The art of questioning is a disciplined questioning approach that can be used to pursue thought in many directions and for many purposes. This includes exploring complex ideas to get to the truth of things, to open up issues and problems, to uncover assumptions, to analyze concepts, to distinguish what we know from what we don't know, to follow out logical implications of thought or to moderate the discussion. Below provides one method of developing questions.

### Collaboratively

- brainstorming questions
- organizing questions
- refining questions
- deciding questions
- collaborating with shared inquiry discussions



### The Question Game

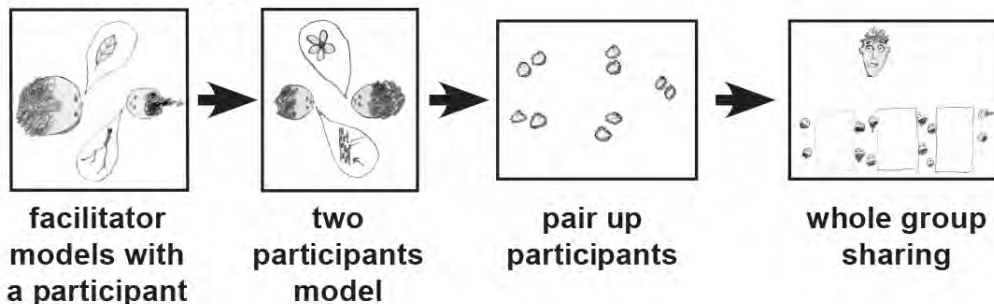
#### Questioning in Depth - Develop Deeper Questions

To start Questioning in Depth the two participants must initially decide on a topic to question. One person starts with an open ended question, then the other person responds with a related open ended question. This continues back and forth with the two participants. The process can start from an object, a topic, or a photograph. An example is an object in the room such as a light bulb:

- Questioner A: *How does a light bulb work?*
- Questioner B: *Who designed the current light bulb?*
- Questioner A: *Who invented the light bulb?*
- Questioner B: *Why would someone invent the light bulb?*
- Questioner A: *How can we improve the light bulb?*



#### Question Game



## Powerful Questions

The Powerful Questions technique is used to build comprehension, inferential thinking, listening skills, understanding, and interest. Either an object or image are used as the focal point for questions. After the object or image have been revealed, the students initially observe the object or image, then share questions from their observations. This technique develops inquiry skills while enhancing observation abilities. It is important that no questions are answered during the exercise. Ultimately quality questions frame deeper answers and understanding.

### *Object or Image*

Either an object or an image work well for this exercise. When presenting an object refer to it as a common object (or similar generic term). This stimulates enhanced observation skills, especially when an object might be several different things. With an image or photograph, it is best to choose one that has some unknown to it (e.g. a half built igloo - is it being built or taken apart?). It is an excellent tool to use an image from a text or book that is being studied as an introduction. Newspapers are also an excellent source of images which becomes an excellent anticipatory set prior to reading the article.

### *Order of Technique*

State you will be shown a common object (or image) which we'll ask questions about. Initially they will be shown the object (or image) and quietly observe it. The students could closely gathered around the object, the teacher could be walking around the room, or each small group could have one of the objects. The students are informed we will only ask questions—they then start presenting their questions. It is best the teacher doesn't repeat the questions, instead having the students repeat their own questions so the focus is on them and they hone their presentation skills. They will be able to see the object or image throughout the time they are sharing questions. An extension is pair/share or small group sharing of questions prior to whole group sharing. This could also be done during the technique to further develop questions.

If the object or image is something they are studying, the questions might be recorded on poster paper. In higher grades two students would write the questions and in lower grades the teacher would write the questions. The person(s) who asked each question might also be noted next to their question to honor them when using the questions during a later study.

The teacher never provides answers and only occasionally asks a question themselves. They might ask a question to offer a new direction, different frame of reference or a deeper extension. e.g. about the perspective of who took the photograph or who invented/designed an object.



Reread all the presented questions to that point several times during Powerful Questions. This recap honors the presented questions while stimulating ideas for deeper inquiry.



# Thinking Maps® (Visual Tools)

Thinking Maps are consistent visual patterns linked directly to eight specific thought processes. By visualizing our thinking, we create concrete images of abstract thoughts to reach higher levels of critical and creative thinking individually and collaboratively. Thinking Maps establish a consistent language for thinking and problem solving. The goal is to have the students autonomous with the Thinking Maps® choosing the cognitive process that supports their thinking.



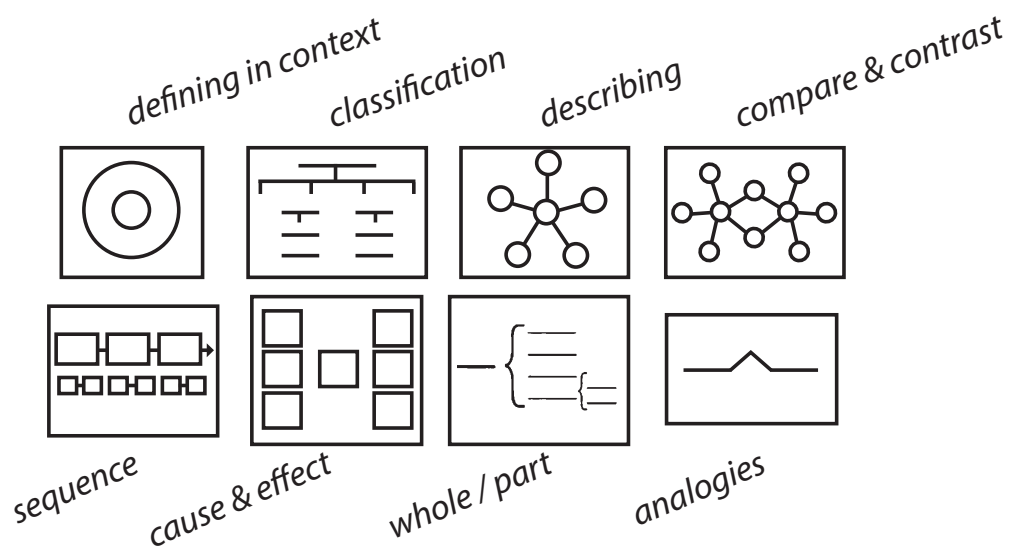
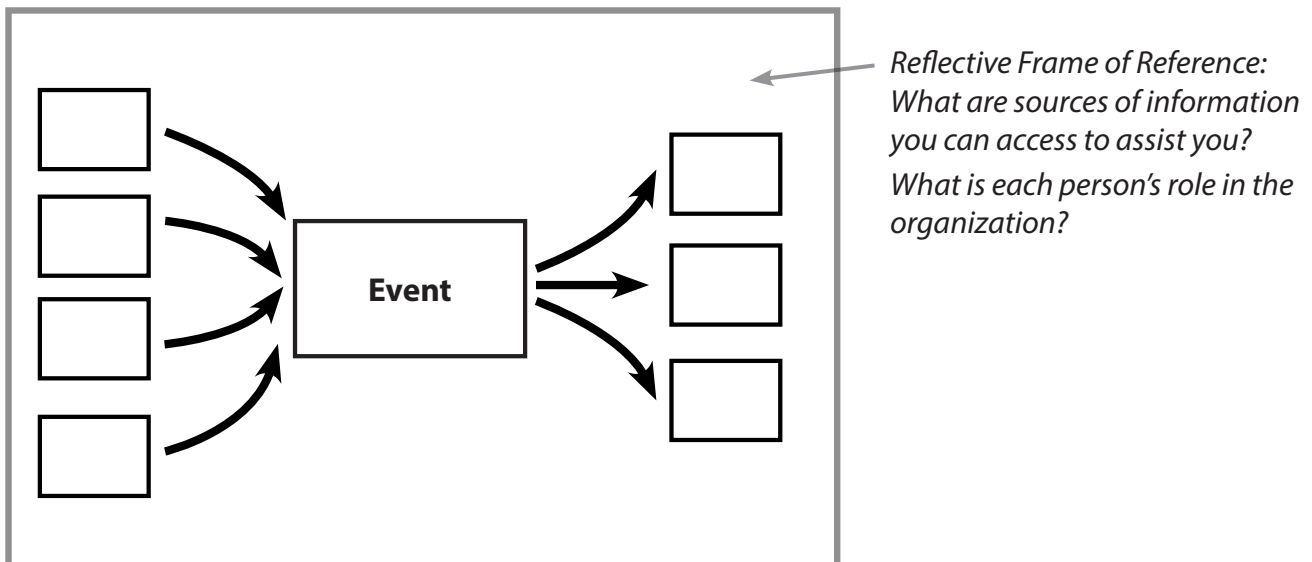
Guiding Questions	➔	Thinking Processes	➔	Thinking Maps as Visual Patterns
<p>How are we defining this topic?                      What is the context? What are our frames of reference which influence our points of view?</p>		<p><b>DEFINING IN CONTEXT</b></p>		<p><b>Circle Map</b></p>
<p>Let's describe the topic. Using adjectives and adjective phrases, what are the sensory, logical and emotional attributes present?</p>		<p><b>DESCRIBING QUALITIES</b></p>		<p><b>Bubble Map</b></p>
<p>Let's compare our ideas. Where are the similarities? and differences?                      How does the present situation compare to our identified goal?</p>		<p><b>COMPARING and CONTRASTING</b></p>		<p><b>Double Bubble Map</b></p>
<p>How could we classify these ideas into groups or categories?                      What are the main ideas, supporting ideas and details this information?</p>		<p><b>CLASSIFYING</b></p>		<p><b>Tree Map</b></p>
<p>Are there any physical, component parts and subparts that we need to analyze?</p>		<p><b>PART TO WHOLE</b></p>		<p><b>Brace Map</b></p>
<p>What do we think happened?                      What is the sequence of events?                      Let's prioritize our solutions and then create a sequential plan of action.</p>		<p><b>SEQUENCING</b></p>		<p><b>Flow Map</b></p>
<p>What are the short and longterm causes and effects of this event?                      What are the feedbacks in the system? Given our solution, let's predict what will happen over time.</p>		<p><b>CAUSE AND EFFECT</b></p>		<p><b>Multi-Flow Map</b></p>
<p>How is this situation related to other experiences we know? What analogy is guiding our thinking?</p>		<p><b>SEEING ANALOGIES</b></p>		<p><b>Bridge Map</b></p>

## Thinking Maps® and Frame of Reference

A frame of reference can be used with any map. It is a meta-cognitive frame asking participants to think about their thinking. They will be asked to step back from the map they created to think about what influenced their thinking.

The following questions could be asked to know the frame.

- How do you know what you know about the topic?
- Did your information come from a specific source?
- Is this information being influenced by a specific point of view?
- Who could use this information?
- Why is this information important?



## Depth and Complexity with Frame of Reference

The Depth and Complexity model provides depth of thinking as a critical thinker, as a problem solver and considerations for all aspects of multiple perspectives with collaborations and understanding.



### Note Details

elaborate; identify attributes; note the parts; important factors



### Identify The Rules

state the explicit or implicit factors that affect an area of study; the structure; the order; the hierarchy; the elements that set the standards



### Observing Patterns

identify reoccurring elements and events; determine the order of events; predict what comes next



### Recognizing Trends

note factors that cause events to occur (social, political, economic, geographic); identify patterns of change over time



### Identify Ethical Considerations

determine elements that reflect bias, prejudice, discrimination; state observations and arguments in terms of ethics



### Questions for Inquiry

use questions to: identify unclear ideas or missing information; discuss areas yet to be explored or proven; note conclusions that need further evidence or support



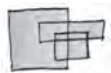
### What is the Generalization, Principle, Theory or Big Idea

identify a rule or general statement that summarizes information or draws conclusion based on evidence drawn from a collection of facts or ideas



### Relationships Over Time

describe relationships between past, present and future; relationships within a time period; how or why things changed or remained the same



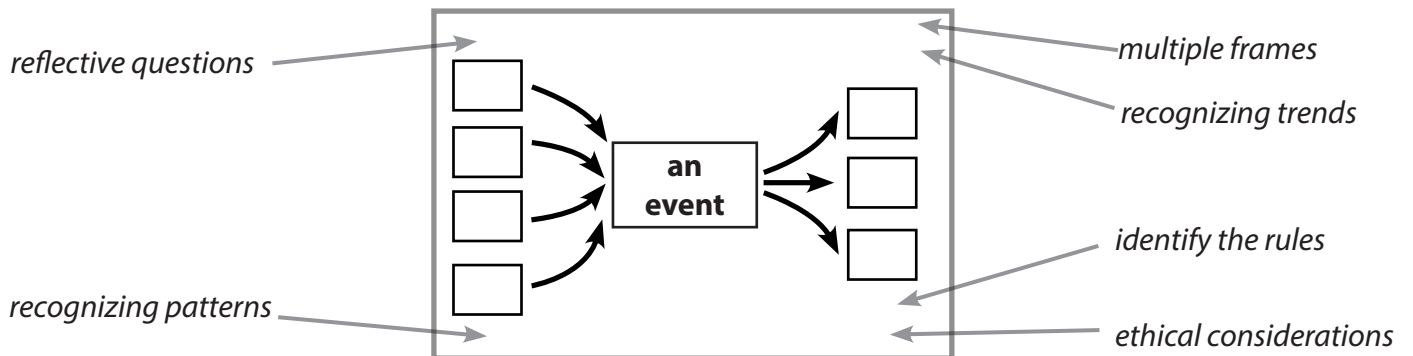
### Multiple Frames of Reference (Perspectives)

discuss multiple perspectives related to area of study; explore different viewpoints; reflect on diversity within a society

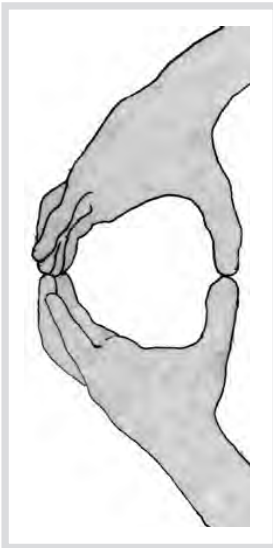


### Interdisciplinary Connections

relate and integrate the area of study to include the methodology of other disciplines



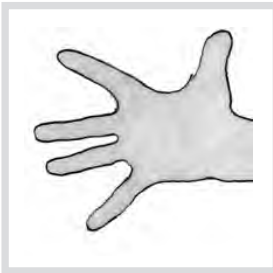
circle map



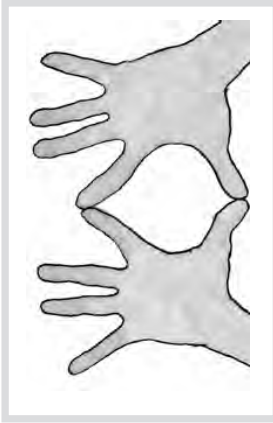
tree map



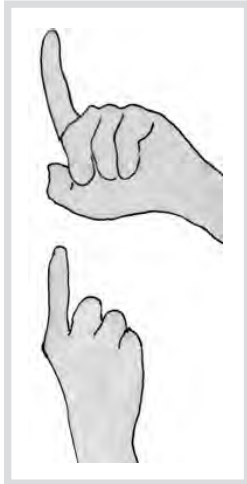
bubble map



double bubble map



flow map



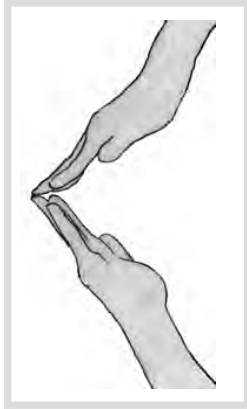
multi-flow map



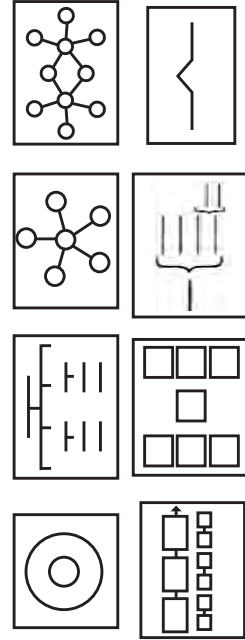
brace map



bridge map  
relating factor\_\_\_\_\_



defining in context  
classification  
describing  
compare & contrast



sequence  
cause & effect  
whole / part  
analogies

## **Collaborative Thinking Methods**

Collaborative Thinking is a relationship among co-workers and students requires positive interdependence (a sense of sink or swim together), individual accountability (each of us has to contribute and learn), interpersonal skills (communication, trust, leadership, decision making, and conflict resolution), face-to-face promotive interaction, and processing (reflecting on how well the team is functioning and how to function even better).

### **Think-Pair-Share**

- The instructor poses a question or topic, preferable one demanding analysis, evaluation, or synthesis, and gives a person about a minute to think through an appropriate response. This “think-time” can also be spent writing.
- One person then turns to a partner and share their responses.
- During the third step, a person’s responses can be shared within a four-person learning team, within a larger group, or with an class during a follow-up discussion. The caliber of discussion is enhanced by this technique, and all participants have an opportunity to learn by reflection and by verbalization.

### **Three-Step Interview**

Common as a team-building exercise, this structure can also be used also to share information such as hypotheses or reactions to a film or article.

- People form pairs; one person interviews the other.
- People switch roles.
- The pair links with a second pair. This four-member learning team then discusses the information or insights gleaned from the initial paired interviews.

### **Learning Teams**

Members of learning teams, usually composed of four individuals, count off: 1, 2, 3, or 4. The instructor poses a question, usually factual in nature, but requiring some higher order thinking skills. People discuss the question, making certain that every group member knows the agreed upon answer. The instructor calls a specific number and the team members originally designated that number during the count off respond as group spokespersons. Because no one knows which number the leader will call, all team members have a vested interest in understanding the appropriate response. The verbalization and the peer coaching helps all learners become actively involved with the material.

### **Simple Jigsaw**

The facilitator divides an assignment or topic into four parts with all people from each Learning Team volunteering to become “experts” on one of the parts. Expert Teams then work together to master their fourth of the material and also to discover the best way to help others learn it. All experts then reassemble in their home Learning Teams where they teach the other group members.

## Collaborative Thinking Methods • The Magic in Craft

Collaborative Thinking is a relationship in classrooms that is built upon implementing with consideration to the craft, the art of teaching or pedagogy. This provides a model of how students being paired begins with the teacher modeling both the method and behaviors to influence students. The model is as follows:

### ***facilitator models with participant***

The purpose is the facilitator / teacher can model behaviors such as what to do when you don't know ideas, how to thread an idea from your partner...

### ***two participants model***

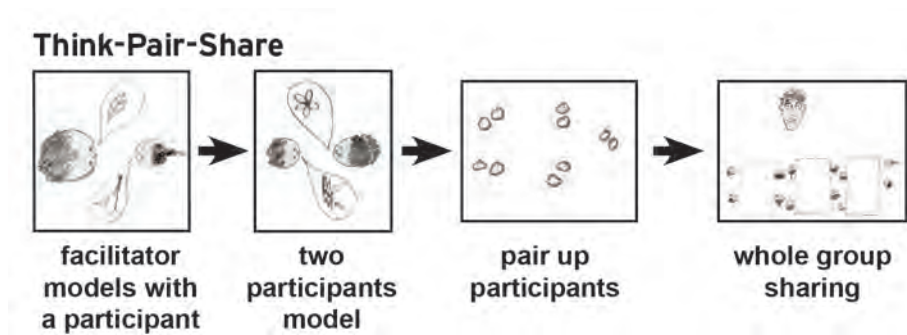
The purpose is the two students model understanding of the process and the classroom will be more attentive with the process watching their peers

### ***all participants paired up***

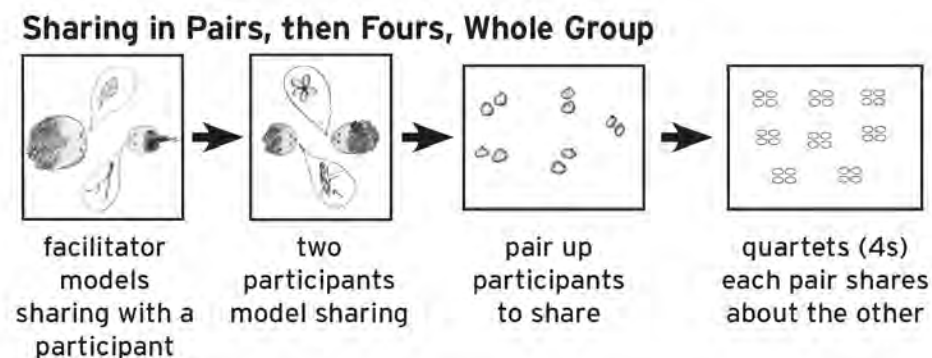
All involved holds all accountable

### ***whole group shares***

Have one person share one thing, then pick a student from a different location in the room.



In this extension below, when participants A&B joining C&D, A shares something learned from B, B from A, C from D, D from C, back to A from B, and so forth...



## **Building Community Exercises**

### **Mingle**

The group mingles around, casually talking to each other. As they continue mingling, you call out a name of a category, like pets. The players then have to find other people who have that in common with them. Other categories you can try are: someone with the same number of brothers and sisters as you, someone with the same color eyes as you, someone with one of your hobbies. Let one of the players take your place and be the leader who can call out the categories.

### **People to People**

Everybody mingles around, greeting one another normally (thus the title “People to People”). You, as the leader, stop movement by proclaiming “elbow to elbow!” or “knee to ear!” The group must form whatever configuration you say by finding someone to touch elbows with or a knee to put an ear on. When you say “people to people,” the mingling and greeting begins again. The game becomes more creative when you announce animal configurations, like “Elephant to elephant!” or “Snake to snake!” or “Alien to alien!” These can lead to “Trunk to trunk!” and “Tail to tail!”

### **In Common • Commonalities**

Participants face the inside of the circle on their individual spots. One person (start with the lead facilitator modeling several times, then each person will do it once) will state something true about themselves. An example might be “I have taken ballet lessons.” Then everyone who has this “In Common” with the person who stated “I have...” will leave their spots and trade with someone else. This is followed by another person sharing something true about themselves. Then everyone who has this “In Common” with the person who stated “I have...” will leave their spots and trade with someone else.

### **I Love My Neighbor**

Participants face the inside of the circle on their individual spots, except for one person, for example Ashenafi, who is “It” and stands in the middle. Ashenafi starts by saying “I love my neighbor who...” finishing with a characteristic or description, such as, “I love my neighbor who has an older brother.” Then all the participants to whom this is true leave their spots and trade with someone else. Ashenafi then scrambles for the open spaces, and whoever is left without a seat is the new “It” and must begin again saying “I love my neighbor who...” Each person who is “It” is not allowed to repeat any of the other things previous “Its” have said.

### **Trust**

Participants are in pairs. They will connect with hands (you could also do it with elbows, fingers, etc.). One person will close their eyes and the leader will keep their eyes open. They will then start walking together. It is the responsibility of the leader with the eyes open to lead the other person who is trusting them on a safe path while they are walking around. Initially do for short segments (e.g. 30 seconds), then have the pairs switch who is the leader.

## Collegial Coaching: Teachers Coaching Teachers

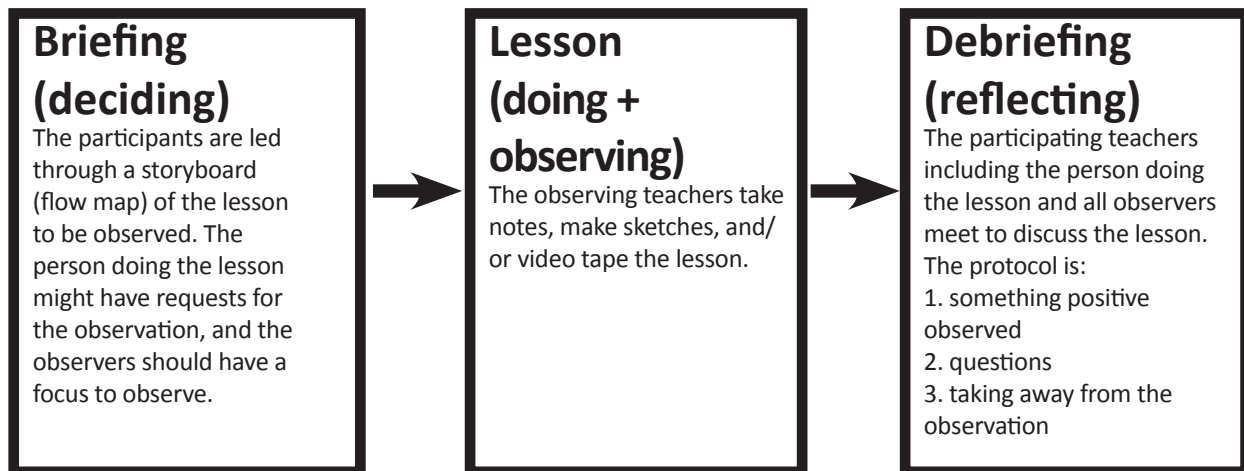
The Teachers Coaching Teachers model focuses on teachers regularly observing each other to learn, understand, and improve their pedagogy (teaching methods and the art of teaching). This model works best in groups of a minimum of three - one teacher demonstrating a lesson while two other teachers observe. The observed lessons are generally in the 15-30 minute range to provide a focus on particular teaching methods. The model includes a briefing, lesson and debriefing.

This model is a multi-directional process: everyone has gifts and skills to share and learn from one another. This differentiated process allows everyone to progress at a rate consistent with their skills. The model is an ongoing process for both new and experienced teachers.

Systems Model: This model is equally effective with administrators coaching administrators; facilitators coaching facilitators.

Ongoing Development: Teachers regularly participant with the Collegial Coaching model throughout the school year.

## Collegial Coaching Process





## **Developing Critical Thinking Environments**

Critical Thinking Environments, is an awareness, understanding and a process focusing upon the design, interface and impact with the environment of the physical learning space. An awareness with 'intentionality'. The environment is 'The Third Teacher' where we focus on designing the physical space with the 'Frame of the Student' as a root understanding. The 'in the eyes of the student' respects and understands all children's frame of reference in regards to how children see, sense, use and interface within the environment, and how the teacher is intentional with their choices, decisions and actions. The teacher's decisions:

- with intentionality impact the classroom and school's environment;
- are crucial to the quality outcomes of the children and youth's learning experiences and how they model with the children;
- become a model to how students learn to consider using and creating their critical thinking environment: in school, home and the greater community.

### *About, In and With a Critical Thinking Environment*

How we think about and frame our vision for a critical thinking environment begins with thinking about:

- *Learning ABOUT a Critical Thinking Environment*  
Creating school-wide and classroom conditions that support thinking environments including how we structure a room, the materials chosen...
- *Learning IN a Critical Thinking Environment*  
Facilitating students in the methods and strategies of learning in thinking environments.
- *Learning WITH a Critical Thinking Environment*  
Learning an awareness of our own and others' thinking environments for use in real-life situations and problems

The key to developing a Critical Thinking Environment is being attentive with intentionality to the impact of decisions with the classroom and school's critical thinking environment.

## **Equality in Education: Multi-Directional Development**

Human capacity for innovation and other human resources are often overlooked or devalued. A model of "multidirectional collaborative development" shifts this assumption and belief system to one where all participants recognize their own capacity for aiding others. Expertise is surfaced, shared, translated and adapted to other contexts for each partner to use as they determine what is appropriate. Examples might be in environmental protection, education, agricultural sustainability, nutrition, and leadership. Multi-directional development is the belief system and model that all people recognize and honor their own capacity for supporting one another globally: ideas and innovation originate within and across ALL places globally. The foundation is a critical thinking approach with methods that are life long problem solving skills for school, in life and with work.

## **Benjamin Bloom’s Taxonomy of Educational Objectives (Cognitive Domain)**

Benjamin Bloom developed the taxonomy in the 1950s in the United States. It is a hierarchy of six types of thinking which become increasingly complex and demanding.

Though the “levels” have increasing complexity, at any age level or at any time within a classroom context a teacher or student may move between different levels. There is no linear sequence required for use of this taxonomy.

The levels of thinking can be applied to developing curriculum units and courses with assessments. This taxonomy is often used for structuring questions at different levels across all levels of schooling and in all areas of learning.

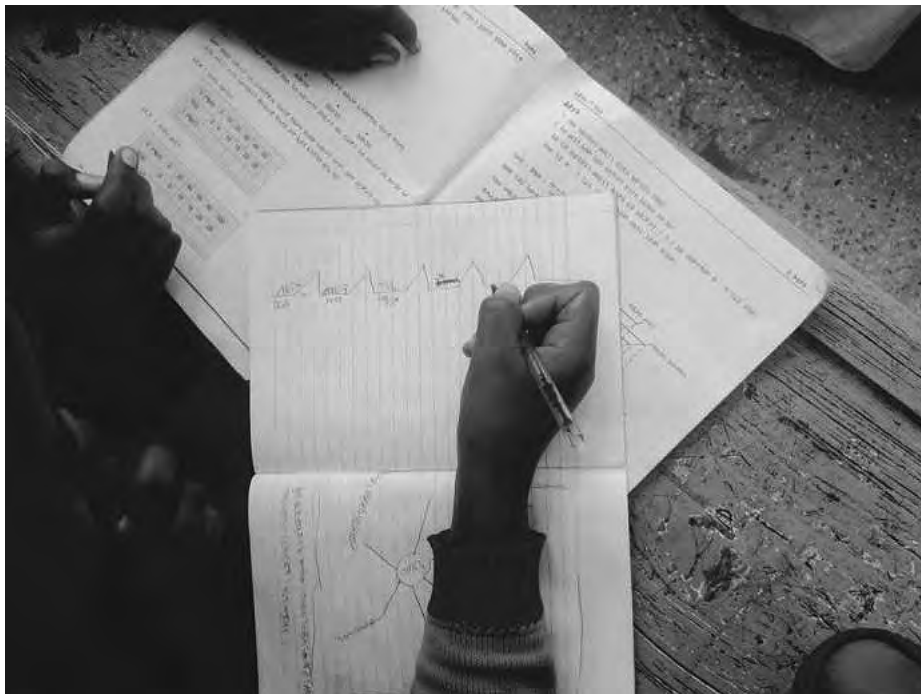
In 2001 Lorin Andersen, et al, made some significant changes to the original taxonomy. Here is the original model with the revised model by Anderson. Notice that the nouns were changed into verbs to reflect the fact that thinking is an active process.

### **Original Bloom**

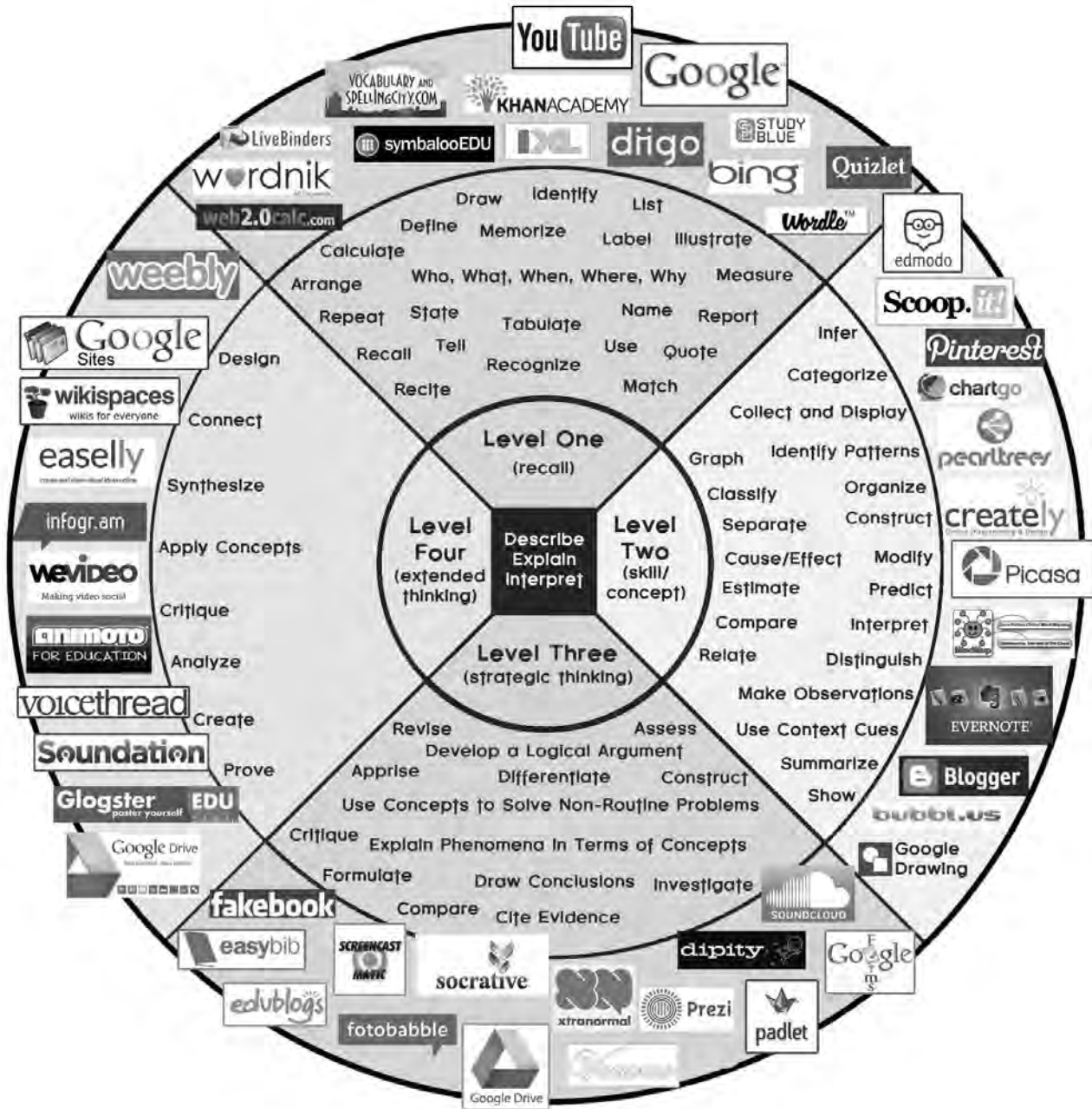
Evaluation  
Synthesis  
Analysis  
Application  
Comprehension  
Knowledge

### **Revised By Anderson**

Creating  
Evaluating  
Analyzing  
Applying  
Understanding  
Remembering



# Webb's Depth of Knowledge + Web 2.0



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Use <i>Quizlet</i> to recall elements and details of story structure, such as sequence of events, character, plot, and setting	Identify and summarize the major events in a narrative	Support ideas with details and examples	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data and reporting results/solutions
Conduct basic mathematical calculations using <i>web2.0calc</i>	Use context cues to identify the meanings of unfamiliar words	Use voice appropriate to the purpose and audience	Apply mathematical model to illuminate a problem or situation
Label locations on a map in <i>Google Drive</i>	Solve routine multiple-step problems	Identify research questions and design investigations for a scientific problem	Analyze and synthesize information from multiple sources
Represent in words or diagrams a scientific concept or relationship	Describe the cause/effect of a particular event	Develop a scientific model for a complex situation	Describe and illustrate how common themes are found across texts from different cultures
Perform routine procedures like measuring length or using punctuation marks correctly	Identify patterns in events or behaviors	Determine the author's purpose and describe how it affects the interpretation of a reading selection	Design a mathematical model to inform and solve a practical or abstract situation
Describe the features of a place or people	Formulate a routine problem given data and conditions	Apply a concept in other contexts	
	Organize, represent, and interpret data		

# Sentence Transformation for Vocabulary Development

*a collaborative method to increase vocabulary, fluency and ideas*

## Description

Sentence Transformation for Vocabulary Development is a collaborative method to build vocabulary from prior knowledge, readings, schema connections, and peer to peer learning. Sentence Transformation models and develops reading fluency, vocabulary, parts of grammar (nouns, adjectives, adverbs, prepositions, etc.), language and spelling patterns and collaborative learning.

## Strengths

Sentence Transformation is a process that involves the whole class and/or small groups in a very participatory activity that builds vocabulary and fluency. It requires minimal resources - a basic chalkboard and/or a wall painted with chalkboard paint. Students can lead the process in addition to the teacher. For the teacher it is an excellent opportunity to model reading with fluency and thinking aloud with vocabulary development.

## When

The process takes approximately 5-15 minutes. It is recommended doing the process 1-2 times daily. The sentence can most effectively connect to content during the day.

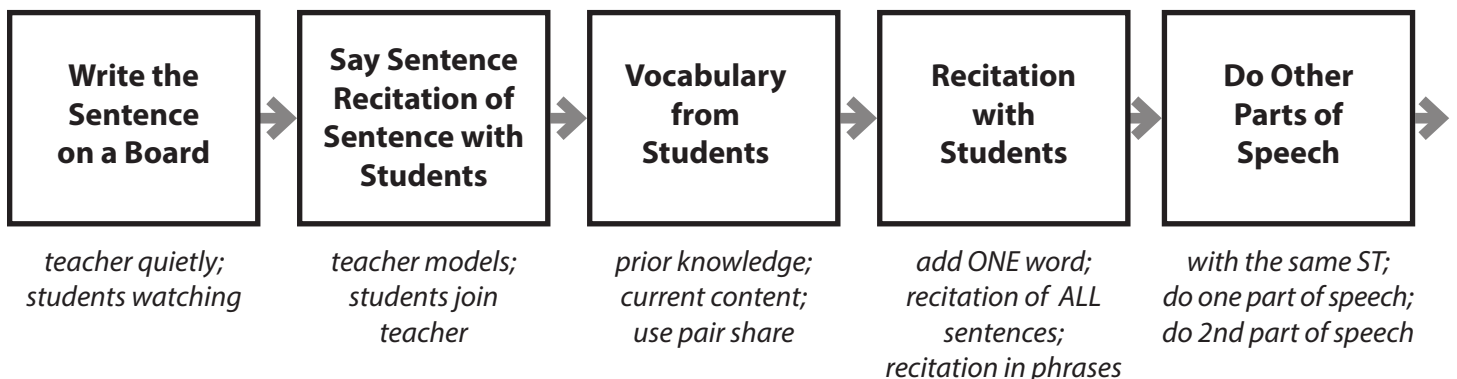
## Extensions

After developing vocabulary with the sentence for various parts of speech, students can extend this activity by writing sentences from the developed sentence transformation. Additionally, the vocabulary if connected to current studies and content can be used as part of a vocabulary word wall.

## Needs

A medium or large size chalkboard and/or white board are very effective. This provides sufficient space to write complete sentences (row) and develop a wide range of vocabulary (columns).

## The Process

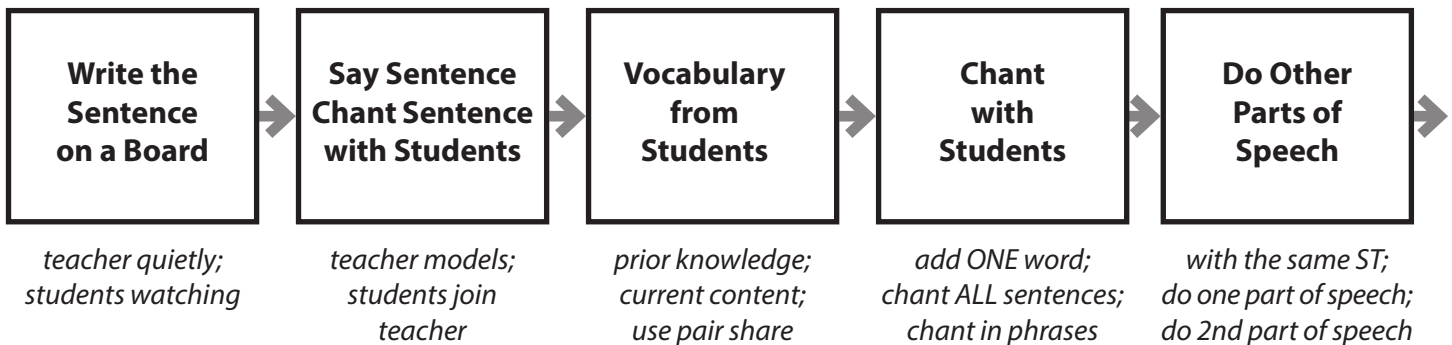


# Sentence Transformation for Vocabulary Development

*a collaborative method to increase vocabulary, fluency and ideas*

## The Process

1. the teacher writes the sentence on the chalkboard saying nothing with the students watching
2. the teacher recitates the sentence while tracking (pointing to) the words in phrases
3. the teacher selects one part of speech (e.g. adjective) and asks for words with similar meanings
4. after adding one word, the teacher recitates with the students the complete sentence with each added vocabulary word
5. the teacher continues with this process adding further words to the part of speech being expanded
6. Reminder—add one part of speech, then recitate all the sentences so far. This supports fluency practice and learning the patterns progressively.



## Students as the Facilitators (teachers)

Having students becoming the whole class and/or small group leaders provides an opportunity to peer to peer transfer, observation of students to assess the student leaders as much as the participating students.

## Teachers Goals of Modeling

It is important to develop students into the leaders of facilitating. It is equally important for teachers to model the procedure throughout the year — assessing student progress to determine needs and ‘changing up’ what is supportive for growth to model to the students.

## Precludes, Next Steps and Extensions

The ‘word bank’ of vocabulary in context created with sentence transformation provides a natural progression to using the ‘word bank’ as a framework for writing. Prior to sentence transformation (or concurrently) visual maps can be used to develop vocabulary in a similar manner.

## The Process

### The Process in Action

To keep the vocabulary development expanding, as well as student interest growing it is important to expand upon the Sentence Transformation process. The example below models developing multiple parts of speech concurrently.

#### Multiple Parts of Speech

The dog chased after the cat.

*teacher silently writes the sentence on the chalkboard  
teacher leads recitation of the whole sentence with the class  
teacher discusses other 'verbs' for chased  
teacher has students 'think-pair-share' verbs for chased  
teacher asks students to share some of their vocabulary*

The dog chased after the cat.  
zoomed

*teacher adds one verb from the student suggestions  
teacher leads recitation of all students with the two sentences*

The dog chased after the cat.  
zoomed  
raced

*teacher asks for more verbs  
teacher adds one verb from the student suggestions  
teacher leads recitation of all students with the three sentences*

The dog chased after the cat.  
zoomed  
raced  
accelerated

*teacher asks for more verbs  
teacher adds one verb from the student suggestions  
teacher leads recitation of all students with the four sentences  
  
continue asking for more verbs and adding them*

The dog chased after the cat.  
zoomed            bird  
raced  
accelerated

*add another part of speech  
what is another noun (animal) like a cat?  
teacher adds one noun from the student suggestions  
teacher leads recitation of all students with the two sentences*

The dog chased after the cat.  
zoomed            bird  
raced              rat  
accelerated

*what is another noun (animal) like a cat and bird?  
teacher adds one noun from the student suggestions  
teacher leads recitation of all students with the three sentences*

The dog chased after the cat.  
goat zoomed            bird  
rat raced              rat  
cow accelerated  
monkey  
pig  
vulture

*continue with another part of speech  
teacher adds further words from student suggestions*

## Poetry Expansion with Sentence Transformation

Read the Poem individually and/or as a whole class.

Sentence Transformation with one sentence & one part of speech at a time

Students create their own variations on the poem's opening line.

### Dreams

Hold fast to dreams  
 For if dreams die  
 Life is a broken-winged bird  
 That cannot fly.  
 Hold fast to dreams  
 For when dreams go  
 Life is a barren field  
 Frozen with snow.

### Hold fast to dreams

Grab	quick	hopes
Secure	rapidly	visions
Grasp	onto	promises
Grip	upon	desires
Fasten	...	wishes
...		...

Grasp quick to dreams  
 Grip fast to visions  
 Grasp rapidly to desires  
 Secure onto wishes  
 Hold fast to hopes  
 ...

Langston Hughes

### Multiple Parts of Speech

Hold fast to dreams

*teacher silently writes the sentence on the chalkboard  
 teacher leads recitation of the whole sentence with the class  
 teacher discusses other 'verbs' for play  
 teacher has students 'think-pair-share' verbs for play  
 teacher asks students to share some of their vocabulary*

Hold fast to dreams  
 hopes

*teacher adds one noun from the student suggestions  
 teacher leads the students recitation of the two sentences*

Hold fast to dreams  
 hopes  
 visions

*teacher asks for more nouns  
 teacher adds one noun from the student suggestions  
 teacher leads the students recitation of the three sentences*

Hold fast to dreams  
 hopes  
 visions  
 promises

*teacher asks for more nouns  
 teacher adds one noun from the student suggestions  
 teacher leads the students recitation the four sentences  
 continue asking for more nouns and adding them*

Hold fast to dreams  
 Grab hopes  
 visions  
 promises

*add another part of speech  
 what is another verb like hold?  
 teacher adds one adjective from the student suggestions  
 teacher leads the students recitation of the two sentences  
 teacher continues with more words for 'grab' and 'dreams' doing one word at a time then leading a recitation of the whole poem with the class*

# Building Community - Team Builders

## Focus and Concentration 1

### Zoom

In a circle students orally pass the word *zoom* around from one person to another. The exercise moves rapidly to build and sustain community involvement. Extensions include switching directions, multiple zooms at one time, students leading zoom, use of different polygons to form the 'circle' (e.g. square), & other words to build vocabulary. Initially introduce with students sitting in a circle with their legs crossed, sitting up straight, and their hands in their laps. The students are modeled and asked to have their knees touching their neighbors knees to form a tight circle.

### Zoom - EEK

In a circle students orally pass the word *zoom* around from one person to another. Introduce the word EEK to everyone—means stop and go the other direction. When the leader says EEK whoever has the zoom changes direction.

### Movin' in Rhythm

Everyone forms a circle. It is helpful to hold hands when first learning Movin' in Rhythm. When in the circle everyone starts moving clockwise (or counter clockwise) together. The goal is to be moving like a smooth wheel going in a circle. The leader can be *at the controls* to control the speed of the wheel or turn it on and off.

### Movin' Zoomin'

Everyone forms a circle. Movin' Zoomin' combines Zoom and Movin' in Rhythm together. First have the group Movin' in Rhythm, then start Zoom. When these two elements are successfully combined, add EEK.

### In-Motion

Combines elements of mirroring and zoom that includes movement, sounds and moving in a circle. One person (initially the teacher) does a motion (movement and sound), then everyone repeats the modeled motion. Then another person in the circle does a motion followed by everyone repeating the modeled motion. The order could be determined from a caller who selects the next person or in order around the circle. In the beginning a suggested rule is to keep your feet on the ground and stay where you are standing.



# **Building Community - Team Builders**

## **Focus and Concentration 2**

### **Pass the Rhythm**

Everyone stands in a circle. One person begins by modeling a clap (the rhythm), then turns to a person next to them (we'll say to the left) and they must clap the rhythm together while looking at each other in the eyes. The person who just received the rhythm now turns to their left and does the same action with the person on their left. This continues until the rhythm returns to the person who began the rhythm.

### **Pass the Pulse**

Everyone stands in a circle holding hands with their eyes closed. The leader is the generator of the pulse. The leader starts with passing the pulse by squeezing the hand of the person to their right or left. The person who just received the pulse is now the conductor and passes the pulse to the person on the other side by squeezing that person's hand. The pulse should travel around the circle a couple of times, with the leader passing it just like everyone else. When this pulse is traveling, you can send a new pulse. Then game ends when the leader progressively stop all of the pulses.

### **Pass the Motion**

The group gathers into a circle and sits facing in. To begin, everyone extends their hands to the center of the circle with their palms up. The leader slowly curls their fingers, one by one, from the left to the right. Then, the person to their right curls their fingers up in the same manner, and then the next person in the group, and then everyone continues around the circle. The motion should pass smoothly and fluidly. After the wave returns to the leader, you can pass another motion (perhaps uncurl the fingers) and add a sound. Then, you can pass any other motions, like standing up, raising your hands above your head, jumping, or whatever you think of. As leader, you are in control of the energy level. If things get a bit too energetic, you can return to the original finger rolls.

### **Pass the Face**

Everyone stands in a circle. Starting with the leader, they make a noiseless face to the person next to them. The second person mirrors the face back to the first person. Then, the second person turns from the first person melting away the mirrored face and making a new face as they face the third person. The third person mirrors the face of the second person. This continues around the circle. As the group improves, there should be no lag time between each passed movement.

### **Pass the Object**

Everyone stands in a circle. The leaders begins with a single imaginary object. You establish, through physically modeling, what the object is. You then pass it to the person on your left (or right), who then continues passing it in the same direction.

# Building Community - Team Builders

## Whole Group Focus

### Machine

The objective of the game is to create an abstract machine using people as parts. One person begins by making a simple motion and sound. The leader selects another person to join the machine - this person adds another motion that works in rhythm with the first person. The leader continues to select people who continue making simple motions and sounds that work in rhythm with the machine. The leader (or a person in the group) is *at the controls* that can turn the machine off and on, or speed the machine up and slow it down. The leader can be specific on what the machine does or makes.

### Fruit Basket

The class sits in a circle on chairs. One person stands in the middle. The participants are equally divided between three fruits (e.g. apple, orange, and pineapples). When one fruit is called by the middle person (e.g. apples), all the apples change chairs including the middle person. The person 'out' becomes the next caller. If a *caller* says fruit basket all participants have to change.

### Frozen-in-Motion

The leader and participants sit on their chairs. Initially have the participants feel the floor, feel the chair, and feel the space they are in. This can be done with eyes open or closed. The participants are then directed to feel and replicate an emotion (e.g. boredom, surprise, mad, etc.). The leader (teacher or student) then says *freeze*. Everyone then freezes as a statue. The leader now says 'we are now in the museum of \_\_\_\_.' Everyone is then asked to focus on one person who remains a statue. Have the viewers focus on a particular part of the *statue person*. Elicit vocabulary to describe different body emotions of the statue person. The vocabulary could be recorded to use on a word wall. This is an excellent exercise leading to a tableau for recreating a part(s) of a story to stimulate and generate discussion.

### Group Rhythm

Form a circle and stand in a relaxed position. Everyone holds their arms out to the side in such a way that each person's index finger is touching the next person's index finger. In this way the whole group is connected fingertip to fingertip. The object of the exercise is for everyone to clap at the same time.

## Building Community - Team Builders

### Pantomime Games

Participants mirror each other in silence. This exercise has the participants focusing on each other to mirror the actions of the person modeling the movements. Initially, and periodically the teacher leads the mirroring activity to model effective movements. It is very important to regularly have students lead the mirroring. These exercises are very effective community builders that build collaboration and the ability to focus. They are excellent for transitions.

### Group Mirror

One person stands facing everyone in the class. They can stand anywhere in the class. It is important everyone has a clear view of the person leading the movement. All participants should stand clear of any objects or furniture. The order of modeling could be: moving arms; moving arms and hands; moving arms, hands, and fingers; moving arms, hands, fingers, and head; moving arms, hands, fingers, head, and torso; moving arms, hands, fingers, head, torso, and elements of the head (e.g. the eyes). The person who is the *mirror* leads the participants for approximately 30 seconds, then says freeze, with all the *reflections* now a stop motion of their movements. Then upon hearing continue they continue the reflection of the mirror. Group mirror is very effective to quickly start with the students participating from wherever they are in the class.

### Circle Mirror

The class, including the teacher stand in a circle allowing room for arm movement. The teacher can initially take the lead as the *mirror*. The person who is the *mirror* leads the participants for approximately 30 seconds (one student can be the timekeeper), then says freeze, with all the *reflections* now a stop motion of their movements. The mirror then selects another person to become the new *mirror*. The *reflections* now imitate the motions of the new *mirror*. The *reflections* now have a full view of the *mirror* allowing additional motions beyond those listed in Group Mirror including: moving up and down; moving legs and feet; and whole body movement. Circle mirror is excellent as a collaborative community builder with equal focus upon each other. It is very effective when students will be changing their location in the room. The circle could be formed at the location of the next classroom activity.

### Duet Mirror

Very similar to exercises and actions in Circle and Group Mirror. The students would stand up and face a partner. Everyone, including the teacher (model), pair with someone in the classroom. They select a mirror person in each pair. They then start until they hear the word freeze in approximately thirty seconds (student timekeeper). The reflection now becomes the mirror. If there are an odd number of people in the class, there can be one group of three.

### Detective

Conducted similarly to Circle Mirror. One person who is chosen as the *detective* turns around (or leaves the room). A person is selected to be the *mirror* without the detective hearing or seeing the selection. The *detective* is invited back into the circle and/or room, where they will try to determine who the lead *mirror* is.