Standard 1: New Learning is Connected to Prior Learning and Experience

- **Indicator 1:** Teacher activates all students' initial understanding of new concepts and skills
- **Indicator 2**: Teacher makes connections explicit between previous learning and new concepts and skills for all students.
- **Indicator 3**: Teacher makes clear the purpose and relevance of new learning for all students
- **Indicator 4:** Teacher provides all students with opportunities to build on or challenge initial understandings

Current brain research has shown that without back ground information or prior knowledge of a topic, the chances of students learning a new concept are greatly diminished. The brain learns by connecting new knowledge to previously stored information. Whenever new learning moves into working memory, long-term memory simultaneously searches the long-term storage sites for stored knowledge that is similar to, or at least associated with, the new learning. If the experience exists, the memory networks are activated and the transfer to working memory is facilitated.

Meaning is more critical to the brain than information. The brain is generally poor at learning random data and isolated facts. It constantly seeks to make sense out of what is happening. For this reason, students don't really want information; they want meaning. I

Creating Context: Information presented in isolation has little meaning. Each puzzle piece is always part of something larger. Meaning comes from understanding the larger pattern. Following are some activities that can help you create context for new information:

- **Short stories or journals**: Students can write short stories or respond to journal topics to describe what they already know about a given topic.

- **Interviews:** In a think-pair-share format, students interview their partners to build prior knowledge.

- **People Search:** This is an interviewing technique that helps students find out what they already know about a topic before the topic has been taught. This activity can also be re-visited after the unit to correct, review, and/or reinforce student learning.
    - Develop 10 – 20 key questions about the topic to be studied.
    - Rewrite the questions using the following format: Find someone who can name….Find someone who knows….who can explain…
    - Create a sheet with these statements followed by a space for the answer and another space for the responder's name.
    - Have the students interview their classmates to find someone who can respond to the questions. The responder should sign the interviewer's sheet in the space provided.
    - The responder can sign the interviewer's sheet only once.
    - Limit the search to 10 or 15 minutes; have the class share.

- **Content BINGO:** This is another type of interviewing technique based on the game   of BINGO. This activity helps to activate prior knowledge and build background before a concept is taught; this activity can be used for review, as well.
    - o Develop 24 questions about the topic to be introduced and place them on a BINGO card format. Remember to leave the center square free.
    - o Students are to interview classmates to find correct answers to the questions.
    - o The responder tells what he/she believes to be the correct answer to the interviewer, and if the interviewer believes it to be the correct response, the responder initials the card. Only one set of responder's initials per card.
    - o The first student to have a BINGO wins the game.
    - o If the concept is difficult and I know the students will not know the answer, I allow them to use classroom resources.

- **ABC Preview/Review:**
    - o Give each student (or pair of students) an ABC chart (see example below).
    - o Students write terms or associations related to the desired topic that begin with each letter of the alphabet. They should fill in as many boxes as possible.
    - o Begin study of the topic. Revisit the chart during the unit to add to the chart.
    - o Use as a review at the end of the unit.

A	B	C	D	E	F	G
H	I	J	K	L	M	N
O	P	Q	R	S	T	U
V	W	X	Y	X		

- **Graphic Organizers:** Before a lesson encourage learners to map out and describe on paper their understanding of the topic. Present students with appropriate graphic organizer(s) and allow them to explain, relate and connect with past learning.

- **Murals or Collages:** Students can create murals or collages to communicate prior knowledge. Display or have students present their work.

- **The Big Picture:** Open every new topic by presenting the big picture of the entire unit. Do this verbally through lecture and discussion and visually with video and graphic organizers.

Engaging Emotion: The stronger the emotion, the more the meaning. Emotional experiences "code" our learning as important. Following are some examples of ways to make learning more personally and emotionally engaging for students:

- **Humor:** The first thing a teacher has to do when starting a lesson is to capture their students' attention or focus. Because the normal human brain loves to laugh, starting with a humorous tale (such as a joke, pun, or story) gets the learner's attention.

- **Reaction/Anticipation Guide:** Provide students with a series of statements to respond to before reading a new selection or introducing a new unit/topic. Students respond based on prior knowledge and previous experiences. Reaction guides appeal to the emotions because they help to create a need-to-know learning situation while providing a purpose for learning new information. You can take them a step further by asking students to read or research to find evidence to support their opinions. The initial responses should not be graded, but are useful to identify gaps in knowledge or misconceptions.
    - Create a reaction guide by writing a series of statements, usually 3 to 7, based on important points, major concepts, controversial ideas, or misconceptions about the material students will be reading or learning.
    - Direct students to respond based on what they currently know or believe; they will respond again after reading or learning the lesson. Students respond using agree/disagree, yes/no or true/false.

Agree or disagree?		Evidence from reading/lecture
	Scientists use data from both living and dead subjects to conduct research on memory.	
	Aging seems to have a relatively minor effect on forgetfulness.	
	Alcohol abuse and Alzheimer's are major causes of memory loss.	

- **Film:** Engage emotions by beginning class with a dramatic, funny, or suspenseful film clip that relates to the topic.

- **Music**: Use music, role-playing or theatrics to evoke emotions.

- **Know their Needs**: Connect learning to closely held desires of the learners: security (younger learners), peer acceptance and identity (adolescents) and autonomy (young adults).

Realizing Relevance: Connect information with other known information. Use associations with prior knowledge to make it meaningful. Try and begin lessons by tying information to some example of personal relevance. The following activities can help make learning more relevant.

- **Analogies:** Analogies help students connect what they know with the unknown. Through analogies students are able to understand complex, abstract concepts by comparing then to more simple, concrete ideas.

- **Brainstorming and journaling:** When introducing a new topic, ask students to brainstorm ways this new learning can be applied in other situations. Or, ask learners to find three ways new information relates to their own lives.

- **Jot Thoughts:** Teammates cover the table with ideas they generate using Post-It Notes or slips of paper. Jot Thoughts is a fun and unique way to get students to generate as many ideas as possible on a given topic.
    - Place students in teams or 4 -6.
    - Teacher names a topic and sets a time limit.
    - Students announce and write as many ideas they can in allotted time, one idea per slip of paper, one student at a time, moving clockwise around the group.
    - Students attempt to "cover the table" with post-it notes or slips of paper.
    - Variations: Students read their notes out loud taking turns as they go around the circle or organize/classify their ideas under larger topics/concepts (creates context).

- **Questions**: Have students generate questions before you introduce a topic. Post them around the room, publish and distribute them or record them for review at the conclusion of the unit. KWL charts (what the learner already *knows*, what the learner *wants* to know and later, what the learner has *learned*) are particularly suited to this purpose.

- **Real-Life:** Give students real-life problems to solve, take field trips, interview experts in the field to create relevance.

- **Table Top Blogging**

    - Students are in groups of four. Each group has poster paper and markers. Each poster paper has a different mathematical topic (i.e. vocabulary words, concepts, etc.).
    - The students in the group have a silent conversation through written response to the topic or a question/comment made by another student.
    - Only one student writes at a time, while the others read the questions and responses that others write. Each student must write at least one response, comment, or question of their own.
    - After an allotted amount of time the facilitator will tell the students to rotate. The students will then read the responses, comments, and questions written by the previous group and respond in the same manner.
    - When the students have rotated through all of the groups the students will then choose one big idea to share in a whole class discussion.