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T-7: Mental Representations

The function of mental representation occupies a central role among all the knowledge construction functions. In the village of knowledge construction, mental representation is the green or town square: Mental representation enables the learner to form ideas. It enables the learner to combine information collected with the reception functions with information that already long may have been interiorized (T-6) and stored as experience in memory (T-8). Ideas are mental designs. When we say we have "*no idea*" about something we are declaring that we have no mental blueprint for it.

Imagine footprints in the sand. Conjure up a brisk winter morning. Hear in your mind the roar of the crowd at a football game. Sense the fragrance of lilacs and roses. Hear the sizzle of the steak on the barbeque. Envision the crackle of wood in the fireplace. The ordinary mind's effortless ability to form mental representations offers a resource of stunning proportions for thinking and learning. Traces, symbols and signs – the building blocks of knowledge – can all be represented mentally as can emotions and feelings. In our minds we can represent formal knowledge and mathematical relationships, walk through familiar or imagined houses and gardens, can relive our travels and imagine scenarios generated entirely by our fantasy.

It can be fun to create ideas. It is easy also to be playful with them. Like cartoons, ideas do not have to abide by the laws of physics. To mediate this function engage students in the development of mental representations. For example, "Imagine what a boat looks like. Close your eyes and try to see a picture of a small boat. Now, paint your boat your favorite color. Choose another color and paint the name of your boat on the side. What colors did you choose? Did you see a sailboat or a motor boat? What name did you choose? How does your boat look?" Use the discussion to focus on the function of mental representation and enable your students to take possession of this

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brain tool so they can use it at will. "Now, imagine your favorite room at home. Close your eyes and have an elephant come into the room. Put a blue bathing suit on the elephant - and yellow sneakers – two pairs! Have the elephant pick up your favorite soft drink from the refrigerator and give it to you."

The knowledge construction function of mental representation is a prerequisite for the formation of ideas and for abstract levels of functioning. It is a pre-requisite for projecting into the future and it interfaces with such knowledge construction functions as goal-seeking and goal setting (T-22), planning (T-23) and goal achievement (T-24) all of which can greatly benefit from it. Prior to the development of this function learners may be unaware of their ability to intentionally form ideas from their experience and deliberately use this capacity in support of the development of their learning and knowledge construction skills.

When you mediate this function with some students you may need to gradually move from the concrete to the abstract. That is, for the child who has become dependent on concrete aids, do not take them away all at once. "Let's add the numbers without using your fingers this time. You can use the sticks to subtract these numbers. Now let's try the next one without the sticks. Try to see the numbers inside your mind just like you saw the elephant before. If you wish you can try to see the sticks in your mind's eye and use them there just like you would if they were lying on the table. See if you can move them in your mind and follow along with what happens."

Remember, an idea is the starting point of every project! Have your students think about or imagine a project they would like to do. Have them visualize and describe the goals of the project (see also T-22) and then mentally represent the steps they will need to take to pursue it (see also T-24). Do this as an exercise for your students to become familiar with the role of mental representation.

Most of the time we focus on mental representations being built from the external reality but just as often it is external reality that has been built from a mental representation. Every house was somebody's dream some time. Have your students discuss the role of mental representation in such fields as architecture, music composition, sculpturing, writing a novel, movie making (e.g. Lord of the Rings, Harry Potter, Star Wars) and theme parts (e.g. Disneyworld).

Ideas are powerful because, once formed, students can apply the resources of their minds to their ideas. They can work with ideas. Ideas can go from being vague to becoming crystal clear. Ideas are

powerful because they can be transformed, stored and combined with other ideas. Ideas are powerful because they can be used to create new solutions to problems. In the legal realm copyrights and patents are devoted to the protection of the embodiment, inventions, know-how or designs that emerge from ideas. Ideas are powerful because they can connect with people's emotions and their motivations. We say 'What a wonderful idea!" or "What an awful idea!". Ideas are powerful because people can unite around them and use them to improve their lives. Philosophies, religions, political movements and 'schools of thought' emerge around ideas. All rely on the development of the central knowledge construction function of mental representation.