Creative Math Teachers

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Abstract

Using theories from Howard Gardner's multiple intelligences and research on brain-based learning, math teachers can change the traditional methods of math instruction. Teachers are encouraged to become informed in current educational theories and develop lessons accordingly.

Ask anyone in the general public to list the ten most creative people they know and chances are math teachers will not make the list, at least not for their math teaching techniques. This is especially true if the person making the list has been out of school for more than ten years. The traditional classroom is one comprised of a teacher delivering by lecture a load of academic content to quiet, relatively motionless students sitting in clean desks arranged in straight rows. Students listen to the lecture, write down some notes, copy some example problems, and work a few problems in class. The students work more problems for homework and practice sheets in class before taking a written test and moving on.

The primary danger in this type of teaching is that it does not allow for all types of student learning styles and the rate of detention of the material is usually low. To counter these negative effects on learning, teachers need to become informed and creative educators.

An informed educator recognizes that information enters the brain in only five ways, the senses: sight, sound, touch, taste, and smell. Understanding is increased with each addition of a path for information to the brain. An informed educator is also aware of Howard Gardner's theory of multiple intelligences. Gardner identifies eight intelligences: verbal-linguistic, logical-mathematical, visual-spatial, body-kinesthetic,

musical-rhythmic, interpersonal, intrapersonal, and naturalistic. An informed educator stays abreast of current research in brain-based learning, which combines the scientific findings from neuroscience with educational theories.

A creative educator develops and implements lesson plans using his or her knowledge as an informed educator. Academic content is taught in a manner that engages the students not only because they are interested but also because the lesson appeals to their senses and learning styles. The lesson of a creative educator is designed according to the foundations of brain-based research.

It is more necessary than ever for math teachers to tap into creative veins when designing lessons. Changing populations, state mandated graduation exams, and No Child Left Behind are factors that are requiring changes to be made in the way math teachers teach.

Creativity has been defined in several ways; however, many of the definitions include the word "novel". According to brain-based research novelty is one of the factors that appeal to the brain. Creativity in the classroom is not the common arts and crafts notion, but instead, developing activities that carry the content of the lesson in a manner that engages students in the learning process. By becoming informed educators, even teachers who claim "I am not artistic" are capable of designing meaningful, relative lessons that "wow" their students and increase learning. Like students, the majority of educators desire information that is easily accessible and immediate. The following web sites provide a place to begin in becoming an informed educator:

http://www.pz.harvard.edu/PIs/HG.htm

http://www.jlcbrain.com

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