.:Buildyourworld:.

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Weekly Blog of Students Oklahoma Education Association

This Issue

Factory School

Math meets Music

FACTORY SCHOOL

The need for creativity

In 1913, ten years after he founded the Ford Motor Company, Ford installed the first moving assembly line in one of his automobile manufacturing plants. Its design enabled a car, which normally took 14 hours to construct from scratch, to be manufactured every 93 minutes. Immensely efficient and constantly in motion, the assembly line became a staple instrument and icon of the 20th century. The faster turn-out rate also allowed consumers to benefit from the decreased costs of production. All in all, everybody was happy.

This model seems to have also been applied to schools. From the metal locker-lined hallways and identical classrooms to the checklist of competencies and deification of verbal and mathematical skill sets, schools show students their value of conformity every single day. However, in 21st century that is today's society, certain rebels are developing a *radical notion*: Schools are not factories and students are not products.

Factory School [continued]

Nearly every educator has heard of the theory of Multiple Intelligences – another radical notion that suggests intelligence cannot be quantified to a value between 600 and 2400 (The *SAT*, Scholastic Aptitude Test). If you have not read Howard Gardner's book *Multiple Intelligences: The Theory in Practice*, I highly urge you to read it. However, it does not seem that the American education system acknowledges this individualistic approach to learning. Now, before you get the wrong idea, I'm not against numbers – I am a math major, after all. But what I am against is partiality and inequality given to students based on their strengths and weaknesses.

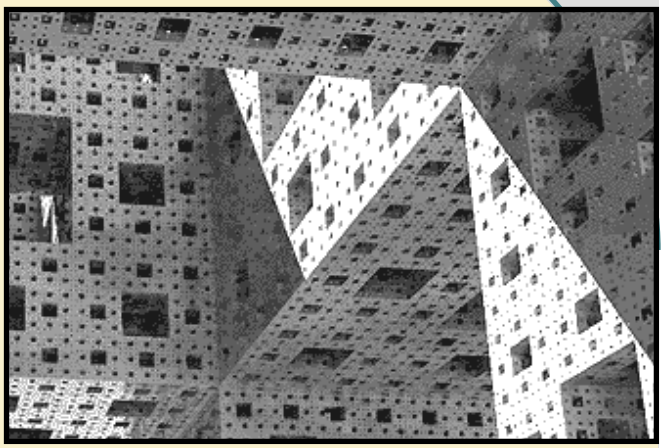
When schools were first being formed, conformity was the way to go. It allowed students from across the country to be on the "same playing field" and you had certain expectations of what knowledge high school graduates had. Everyone was equal and they were efficiently competent of performing the required tasks pertaining to that time period. But the blinders need to be removed.

Everyone is not equal and, in this technological age, new career paths are developing every single day. While everyone is not equal, everyone brings something to the table – everybody has their niche. Schools need to acknowledge this uniqueness and create new, innovative styles of teaching and assessing. While your school as a whole may still emphasize mathematics and verbal skills, expand your mind to incorporate other skills into your teaching – kinesthetic intelligence, nature intelligence, musical intelligence, etc. The more diverse your teaching style is, the more students you will reach. While it may change the world (immediately), you did change that one student's world and opened up an imagination's worth of possibilities to him.

Teaching MΔTH through everything!

The creative side of logic

If one were to look in to a dictionary, they might find the definition of "Biology" to be *The study of life*. Chemistry is *The study of matter and energy*. Psychology is *The study of mental processes*. Archeology is *The study of past human culture*. This list of "ologies" could go on, but what about mathematics and its field of study? As one delves deeper in to the world of mathematics (a dangerous feat), he finds that mathematics is *The study of patterns*. Almost everything has a pattern and, consequently, has a foundation of mathematics in it.



Patterns can make even the most complex things simple!

Teaching MATH through everything! [continued]

The creative side of logic

In a world where the average student's affinity for mathematics is borderline hate, teachers need to find creative ways to present the information. Below are a few ideas you can use to bridge the gap between mathematics and other seemingly disjointed subjects:

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Nature: If it's nice outside, go outside and see all the math around you! The number of clockwise and counterclockwise spirals in a sunflower are two consecutive numbers in the Fibonacci sequence. Use algebra to solve for proportions around the schoolyard or trigonometry to solve angles and other measurements created by trees, branches, buildings, etc. From rainbows to rivers to spider webs to animal coats, nature contains countless mathematical reserves just waiting for you to tap in to them.

History: Who doesn't like those shows on the History Channel?! Using everything from wars to economic conditions to just interesting facts pertaining to the time period, your students can learn math and not even know it! Have your class split in to two groups and have them battle each other using plastic army men and develop battle tactics based on probability! It's engaging, informative, and easy! What other ideas can you think of?

Art: DaVinci will smile upon you. From simple tasks like finding all the circles in Van Gogh's *Starry Night* to calculating the perimeter or area of *The Parthenon*, art is abounding with mathematics. One fun lesson on proportions is to have students find the ratio of various parts (such as the distance between the finger tip and the elbow / distance between the wrist and the elbow) and it magically comes out to the mystical golden ratio! Google "human body golden ratio" to find other proportions!

Home Econ: While money and budgeting is the first application that comes to mind, there are so many other ways mathematics infiltrates your home life! Teach your elementary students measurements and percentages while simultaneously teaching your high school students chemical reactions and heat transfer all by simply cooking food! Add and subtract calories based on caloric intake and exercise. Identify and solve geometric shapes in common household items. And don't get me started on how you can use your iPod, neighborhood park, grocery store, and so many other objects and places for mathematics!

Video Games and Movies: You read that right! Many of your students will already be familiar with them, so tap in to that familiarity! Use it in Calculus – if Morpheus was moving at x speed in t seconds, how far apart were the cars when he jumped them? Use it in algebra – If it takes ironman x amount of time to go y distance, how fast is he going? With physics, calculate how high *masterchief* can jump in Halo3. The applications are as diverse as the movies and video games that contain them!