Strategies for differentiated learning in the middle school classroom?
By Toby Hopkins and Anushka Krishna

http://robtch.wordpress.com/2008/03/17/mr-bean-nobel-prize-in-comedy/

What is Curriculum Differentiation?

- "Differentiated instruction is simply providing instruction in a variety of ways to meet the needs of a variety of learners" (Nunley, 2006)

- Teachers (especially in lower secondary) are faced with the dilemma of motivating students to learn while still having to push to meet content outcome expectations (Preszler, 2006).

- For this presentation we have focused on five strategies for curriculum differentiation in the classroom. These are: Tiered instruction, Sensory strategies, Tic-Tac-Toe, Scaffolding and New concept strategies.

Reason for Choice

- Both had classes where it was necessary to differentiate curriculum and both classes were year 8 and 9.

- Differentiation can result in: students achieving more, students becoming more involved, students feeling more comfortable in the classroom and hopefully increasing their scores on assessments (Preszler, 2006).

Tiered Instruction

Look, it's perfectly simple.
No mobiles. No walkmans. None of that...
... OR ANY OF THE OTHERS.

Tiered Instruction

- "Teachers use tiered activities so that all students focus on essential understandings and skills but at different levels of complexity, abstractness, and open-endedness" (Preszler, 2006, p8).

- **6 ways to tier a lesson** (Preszler, 2006, p9):

- Tier by challenge level (Bloom's Taxonomy)

- Tier by complexity (When you tier by complexity, you address the needs of students at introductory levels as well as the needs of students who are ready for more advanced work.)

- Tier by resources (When you choose materials at various reading levels and complexity of content, you are tiering assignments by resources.)

- Tier by outcomes (Students use the same materials but end products vary.)

- Tier by process (The end products are the same but the ways students arrive at those outcomes may vary.)

- Tier by product (Group by multiple intelligences or learning styles followed by assignments that fit those preferences.)

Example in Maths: tiered by complexity

- General Questions - must be completed
- Additional Questions - increased difficulty
- Extension Questions - advanced questions requiring foreign concepts
- Brain Teasers - problem solving questions
- Gifted students do some questions(do not have to do all general questions) but must always do last 2 questions (hardest).

Example in Maths: tiered by complexity cont'd

- Weaker maths students doing general questions

- Stronger students able to advance in question complexity

- Extension available for very strong maths students

Activity

- Sensory Experiment

Sensory Strategies

- Students learn in different ways, at different speeds and using different intelligences. Including many senses in the material encompasses many intelligences.

Sensory Strategies in Science

- Experiments allow students to get physically involved with material and actively explore concepts in a way literature can not.

- Try to encompass a lot of experimentation work within the curriculum to allow students to use a variety of senses.

- Caution: Smell and Taste in science lab

Example Sensory Strategy

- Year 8 physics: energy transfer and transformation.

- Balloon rockets + Water rockets

- Use theory to evaluate observations

- Use video of rockets

Tic-Tac-Toe
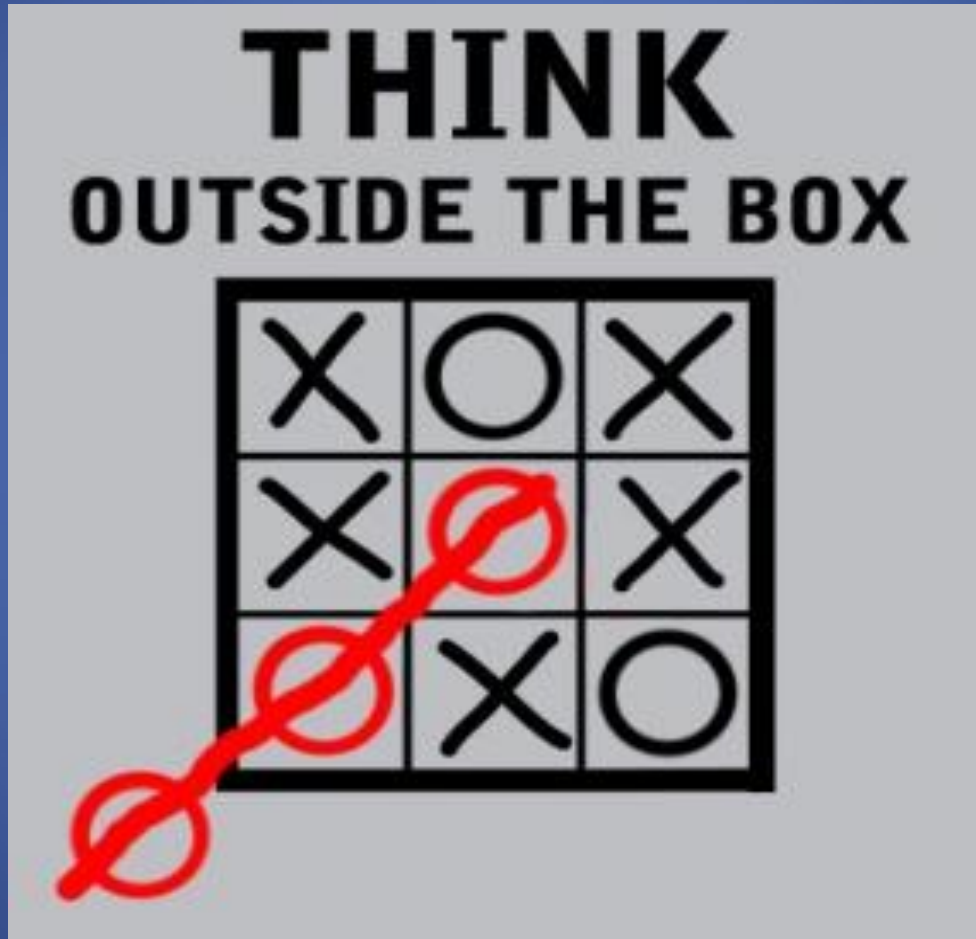
Tic-Tac-Toe

- Use 9 outcomes you want students to learn, revise or extend and devise 9 activities, one for each.

- Arrange them in a 3x3 table. The outcome that all students should do should occupy the middle square.

- Students are to complete three tasks either individually or in groups. The tasks have to give a straight line through three squares.

- Create choice board options based on learning styles or learning preferences.

- A choice board could include three kinaesthetic tasks, three auditory tasks, three visual tasks.

Example Tic-Tac-Toe

Draw a model of filtration, decantation and evaporation	Create a demonstration for the class on how to decant, or filter using the materials provided	Complete the computer program of separation techniques and fill in the worksheet
Research and define the following terms using the internet or the books provided: mixture, homogenous mixture, heterogenous mixture, soluble, insoluble, density.	Write the method of filtration, decantation and evaporation	Experiment with the different materials provided and determine if you should filter, evaporate or decant to separate the mixture
Find a video of decantation, evaporation or filtration	List household and industrial uses for filtration, decantation and evaporation	Draw a table describing the advantages and disadvantages of filtration, decantation and evaporation

Scaffolding

- The easiest way to scaffold is by stepping out each part of the task as if it were a recipe

- You can also use a mind map or a visual task map

- http://documentarystoryboarding.yolasite.com/

Strategies for New Concepts

- Use repetition

- Use familiarity

- Appeal to interests

- Use multiple approaches for the same concept

References

- Bousnakis, M., Burns, T., Donnan, L., Hopper, S., Mugavero, G. and Rogers, K. (2011). Achievement Integrated Model: Interventions for Gifted Indigenous Underachievers. *Giftedness From An Indigenous Perspective 11: 43-77*

- Coleman, M. (2001). Curriculum Differentiation: Sophistication. *Gifted Child Today. 24*(2): 24-25

- Larkey, S. Strategies for teaching students with autism spectrum disorder and other students with special needs. [online].Learning Links News; n.1 p.1-4; 2003

- Nunley, K. (2006). *Differentiating the High School Classroom: Solution Strategies for 18 Common Obstacles.* Thousand Oaks, CA: Corwin

- Preszler, J. (2006). On Target: Strategies That Differentiate Instruction. *Grades 4 – 12*. Rapid City, South Dakota: South Dakota's Education Service Agencies