Using Math Application Resources as a Learning Tool in the Classroom

Rationale: Our school has recognized that our students are particularly low in basic math skills and have low math achievement. The effects of math applications on student understanding and formative assessment are well documented within research. A variety of sources show a positive correlation between math applications and an increase in students’ assessment and testing results.  By engaging in this Professional Inquiry Project we hope to develop application resources and strategies that teachers can use to increase student motivation and success in math class and to better understand the relationship between interactive mathematical learning applications and level of achievement.

Proposed Activities and Processes of this project:

* Researching some prevalent theories that have addressed this topic to identify benefits and potential pitfalls to avoid.
* Developing and/ or implementing relevant application-based activities to be tried in the classroom setting focusing on specific skills (math facts, multiplication, division, fractions/decimals).
* Observing the effectiveness of the applied learning for student motivation and understanding of math concepts through discussion, student feedback, and by comparing subsequent grades.
* Displaying our research, our successes, and our strategies on an online website (<http://applicationmathgames.weebly.com/>) to be shared with our school, our other intern teachers, and whoever else may benefit from our discoveries.

Timeline of Events:

January 31, 2014 - Initial project Proposal outlined (Finalized by February 7)

February - March 2014 - Research and implementation of applied activities within our math classrooms, observing results and documenting our discoveries on our website.

March 7, 2014 - Attend a PD session entitled “Games and Activities to Support Basic Math Facts” to potentially learn of more strategies and to collaborate with others interested in the same area.

March - April 2014 - Develop our website with our results, strategies, and resources.

April 2014 - Share resource with other Div. 2 teachers at our school, present to Faculty Mentor, and present final product to intern teachers.

Description of End Products:

* Website to be shared among colleagues including background research, our strategies, resources used, instructional videos, online games used, etc.
* Development of some concrete materials to leave at the school (such as instruction sheets, board games, worksheets, question cards, etc. to be used during implementation of the games).

Sources to Date:

GAMES BASED LEARNING IN TEACHING OF MATHEMATICS AT LOWER SECONDARY SCHOOL  by PETER VANKÚŠ

<http://www.ddm.fmph.uniba.sk/ADUC/files/Issue8/06Vankus.pdf>

Children’s Perspectives on Mathematics and Game Playing

Leicha Bragg Deakin University

<http://www.merga.net.au/documents/RR_bragg.pdf>

Investigating Students’ Achievement in Mathematics through Non Technological Game Based

Teaching

Javed Mustafai

Senior Science Teacher in Elementary &

Secondary Education Peshawar, KPK, Pakistan

<http://www.ijsre.com/Vol.,%204_3&4_-Mustafa.pdf>

The use of mathematical games in teaching primary mathematics

Author: Koay Phong Lee

Source The Mathematics Educator, 1(2), 172-180

Published by Association of Mathematics Educators

<http://repository.nie.edu.sg/jspui/bitstream/10497/87/1/ME-1-2-172.pdf>

Mathematics Games as a Pedagogical Tool

Authors: Paul Swan and Linda Marshall

Edith Cowan University

[://www.recsam.edu.my/cosmed%202013/cosmed09/AbstractsFullPapers2009/Abstract/Mathematics%20Parallel%20PDF/Full%20Paper/M26.pdf](http://www.recsam.edu.my/cosmed%202013/cosmed09/AbstractsFullPapers2009/Abstract/Mathematics%20Parallel%20PDF/Full%20Paper/M26.pdf)