1.0 Graduate Credit - ONLINE

ED 589: Math and Literacy: Beyond the Right Answers, Grades K-12

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Course Credit: 1.0 graduate credits

Dates & Times: Online: This 15-hour online, asynchronous course, divided into 10 modules. The student must spend a minimum of 1.5 to 2 hours per week over 10 weeks to complete this course.

COURSE DESCRIPTION:

K through 12 math classrooms that support literacy development are those in which students and teachers demonstrate understanding of the learning and thinking process. Teachers can model metacognition skills and evaluate how students think through think-alouds, problem-solving, role-playing and hands-on exercises that teach students how to articulate their process verbally and in writing. The Common Core process shifts will be examined closely in this e-course to help participants fully understand the new K-12 applications behind them. Participants will finish the course with a repertoire of strategies with which to move forward in teaching students how to articulate the process that brought them to their end product.

STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to:

- Defend how the new K-12 Common Core shifts in math as they work into new teaching applications.
- Restate and illustrate through planning and implementation the steps and strategies involved in teaching students how to articulate mathematical processes.
- Learn and practice with grouping scenarios that lend themselves to real life skills applications and mathematical solutions.
- Enhance mathematical understanding of process and product in how students think about math through the close examination of the models used to effectively problem solve.

TEXTS, READINGS, INSTRUCTIONAL RESOURCES**:**

Required Text:

- Burns, M. Uncovering the Math Curriculum. Educational Leadership. October 2014. Vol 72(2).
- Burns, M. Go Figure: Math and the Common Core. December 2012; January 2013. *Education Leadership.*
- Halladay, J. L., & Neumann, M. D. (2012). Connecting Reading and Mathematical Strategies. *Reading Teacher*, *65*(7), 471-476.
- Friedland, Ellen S. et al. (2011) Collaborating to Cross the Mathematics–Literacy Divide: An Annotated Bibliography of Literacy Strategies for Mathematics Classrooms *Journal of Adolescent & Adult Literacy* 55(1) 6. (pp. 57–66)
- IES (Institute of Educational Sciences) Practice Guide: Improving Mathematical Probem Solving May 2012 http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=16
- Strom, E. (2013). Common Core Standards: Solve Math Problems. Scholastic Magazine.
- Wilcox, B. & Monroe, E.E.(2011) Integrating Writing and Mathematics. The Reading Teacher 64 (7).

Recommended Text:

- Draper, R.J. & Siebert, D. (2004) Different Goals, Similar Practices: Making Sense of the Mathematics and Literacy Instruction in a *Standards-Based* Mathematics Classroom *American Educational Research Journal Winter 2004, Vol. 41, No. 4, pp. 92 7-962*
- Martiniello, M. (2008). Language and the performance of English language learners in math word problems. *Harvard Educational Review*, *78*, 333-368.
- NCEE 2012-4055 U.S. DEPARTMENT OF EDUCATION
- Payne, Ruby. (2008) Nine Powerful Practices. *Educational Leadership.* 65(7): 48-52
- Pierce M.E. & Fontaine, L.M (2009) Designing Vocabulary Instruction. in Mathematics *The Reading Teacher, 63*(3), pp. 239–243

COURSE REQUIREMENTS:

Students will have 10 weeks to complete each course**,** after which time they will be un-enrolled. If you need an extension, please email the instructor. Complete one module at a time. This is a 15-hour course. Each module will take approximately 1.5 to 2 hours to complete, give or take with some less and some more, to constitute 15 full instructional hours. The system will auto-check the course components when the requirements have been met. Requirements include reading lectures, viewing video, and responding to discussion prompts or scenario prompts. Keep in mind that:

- Some course elements are optional such as grade-band video and resources, in which case you can toggle over the check box and self-check to keep a record of your progress.
- Certificates of Completion will be made available in the final module once all assignments are submitted, participation and hours requirements met.

In order to receive a Passing grade, the participant must complete the following course requirements:

- All discussion forums and/or scenario responses must include 1 original post to the question prompt and one to another student in the cohort.

- All video viewed. When there are several video divided by grade-band, select the appropriate and view.
- All books read in full, scrolling from beginning to end.
- All practice lessons and/or activities complete.
- All assignments complete (lessons or unit plans)
- Certificates will not be printable until all of the above conditions have been met, with a passing grade issued by the instructor.

GRADE DISTRIBUTION AND SCALE:

Grade Distribution:

Discussion Forums, Scenario Responses	30%
lessons and/or activities	20%
Lesson and/or unit Plans	50%

Grade Scale:

Grading will be Pass/Fail: A minimum score of 80% will be required to pass.