

# Incorporating Literacy in Mathematics

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“People are the common denominator of progress. So... no improvement is possible with unimproved people, and advance is certain when people are liberated and educated. It would be wrong to dismiss the importance of roads, railroads, power plants, mills, and the other familiar furniture of economic development... But we are coming to realize... that there is a certain sterility in economic monuments that stand alone in a sea of illiteracy. Conquest of illiteracy comes first.”

John Kenneth Galbraith, *The Affluent Society* (1958)  
US (Canadian-born) administrator & economist (1908 - 2006)

# Why literacy in math?

- Students need to be able to read their math textbooks!
- Students are required to solve mathematical word problems.
- Students are required to provide a written solution to mathematical problems.
- Literacy promotes effective, non-violent communication.

What strategies can we  
use in the classroom to  
incorporate literacy?

# Start the day with a quote!

- Quotes can inspire, encourage, and set the tone of the class for the day.
- Quotes can be used for critical lens essays in High School English classes.
- Quotes can be found on the internet, try using google to search “quote of the day”.

# Example Quotes

- “Do not worry about your difficulties in Mathematics. I can assure you mine are still greater.”

Albert Einstein

- “Mathematics, rightly viewed, possesses not only truth, but supreme beauty - a beauty cold and austere, like that of sculpture.”

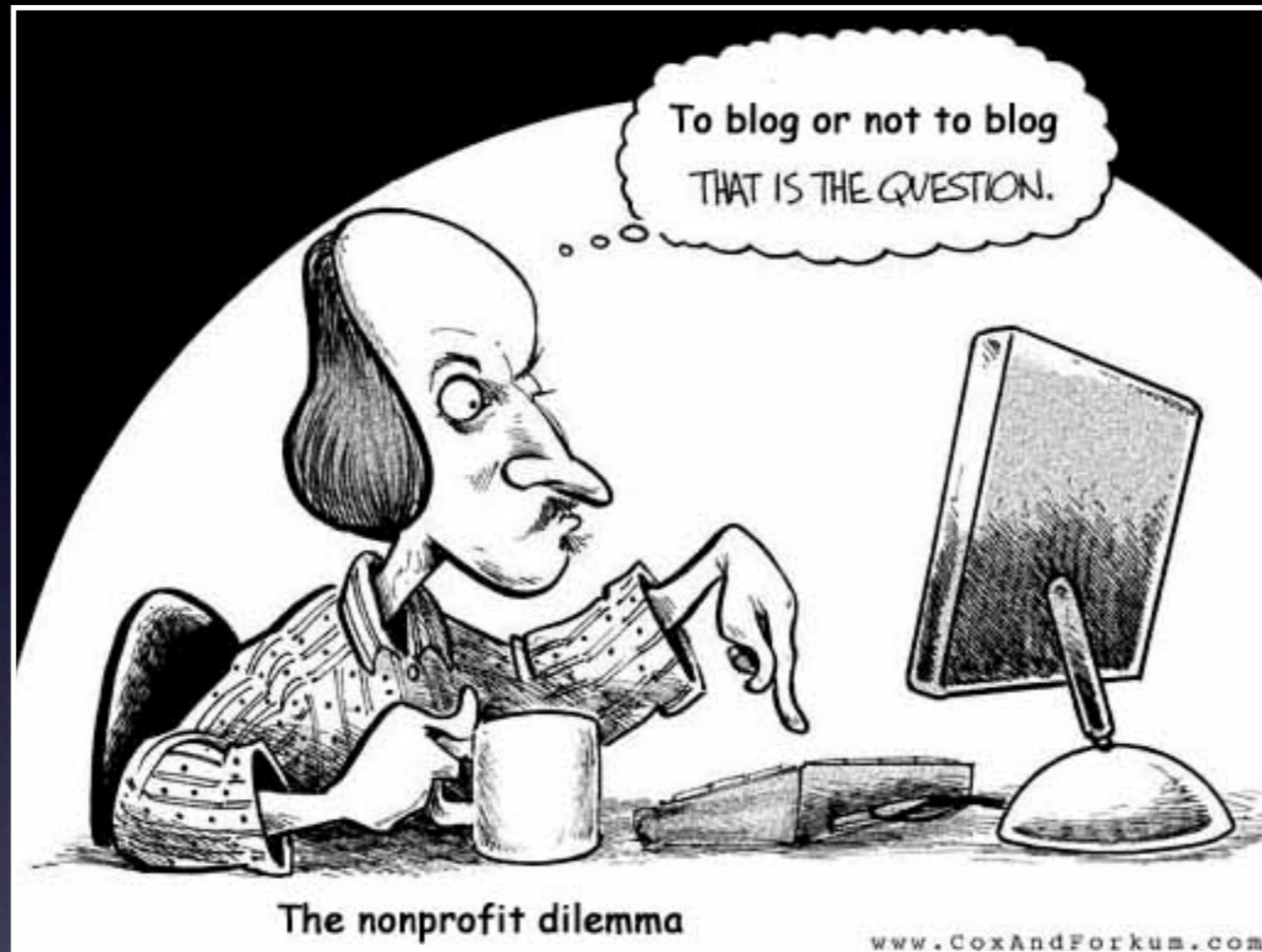
Bertrand Russell

# Have Students Keep Math Journals

- There are countless ways to implement math journals in the classroom, be creative!
- Math journals can be written on a daily or biweekly basis.
- Teachers must read journals, comment, but not criticize. Remember the journal is a safe place to express thoughts.
- Must be accomplished once a week or the journals lose their effectiveness.

# What is the Purpose of Math Journals?

- To increase confidence
- To increase participation
- To decentralize authority
- To encourage independence
- To replace quizzes and tests as a means of assessment
- To monitor progress



Create a class blog.

# What is a blog?

- A blog is a webspace where students can view and respond to the comments of other students who post on the blog.
- Blogger and Wikispaces provide free pages for educational use.

# Example of Blog use:

- The teacher ends the class with one homework question and posts it on the blog.
- The students view the blog on their own time and write their comment on how they would solve this question.
- The next morning, the teacher reviews each response and then approves appropriate responses for public view.
- Students then can view different solutions to a question. All solutions are written by students, for students.

# Legalities of Blogs

- No posting of student last names or email addresses (first names only).
- Teachers must moderate blogs and approve what posts are made public (school appropriate only).
- No pictures of students to be placed on the blog (even with the permission of the parents).
- Ask your principal first!

# Blogs offer the same benefits as journals.

Student confidence, participation, authority, and  
independence.

# Use writing as an exit activity.

- During the last five minutes of class, pass out index cards and have students write a short paragraph describing what they learned in class.
- If time permits, read positive comments aloud. Do not include the names of the students.

# Teach students how State exams are graded.

- Written explanations are acceptable for partial or full credit on standardized exams.
- See example below from the Math B Regents rubric.

### **III. Appropriate Work**

*Full-Credit Responses:* The directions in the examination booklet for all the constructed-response questions state: “Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, charts, etc.” The student has the responsibility of providing the correct answer *and* showing how that answer was obtained. The student must “construct” the response; the teacher should not have to search through a group of seemingly random calculations scribbled on the student paper to ascertain what method the student may have used.

# How do we demonstrate test writing in the classroom?

- Have students practice exam questions using no numbers, only written answers!
- Ask students to write a letter to a friend explaining how to solve a specific question.

# The 3-2-1 Activity

Please take out a blank piece of paper and something to write with.

# 3-2-1 Activity

- Write 3 strategies you learned today.
- Write 2 questions you have about the materials presented.
- Write 1 idea you will use to incorporate literacy in the classroom.

Additional Questions?

# Thank you!

- Contact Information  
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