Narrative Mathematics as a Tool for Cultivating Curiosity and a Sense of Purpose

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Why Narrative Mathematics?

• The course
• The traditional pedagogy
• Students’ side of the equation
• Inspiration from other fields (Greenhalgh 1999, Larry 2006, Cushing 2012)
Self-selected Students

Motivation in Choosing the Major

- "Money is good!": 69.5%
- "I need job security": 47.6%
- "High social status": 41.5%
- "I can be of public service": 28%
- "I need to support a family": 22%
- "I don’t know what this is about but I don’t know what else I could be doing with my life": 17.1%
- "Parental pressure": 7.3%
- "I need to secure my immigration status": 7.3%
- "Other": 5.2%
What are my goals?

1. To provide an interesting, intuitive and memorable concept map that link a large number of mathematical concepts

2. To provide students with a clear sense of relevance to the course materials and an intrinsic purpose of learning
Design and Implementation

• The character and the story
• Choice of media
• Ongoing narratives (lectures, blog posts, in-class participation)
• Other (e.g. student assessment)
On "Narrative concept map" Q1: Did the overarching narrative (media clips, portal posts, along with my in-lecture narrative) help you create a concept map that shows you how various mathematical concepts in this course are linked amongst each other?

- Yes: 65%
- Somewhat: 33%
- No: 2%
Reception

On "Choice of character": Q5. For the pilot year, I have deliberately chosen a central character who is an ethnic minority and an immigrant's child. Is this a character you can relate to?

- Yes. I share/appreciate the perspective of this character (i.e. Sussie Lin): 78%
- Yes. But I’d rather see a different central character: 6%
- I can’t relate to this central character at all: 16%

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Text GENERALUTSTA602 to 37607 once to join
On "Choice of character": Q6. Did this choice of character help you develop a deeper purpose for learning in this course?

- Yes: 51%
- Somewhat: 40%
- No: 9%

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Do you agree with the following statement? "Overall the narrative-based pedagogy improved my learning experience in ACT247 and thus is a worthy pedagogical approach to be further explored."

- I agree a great deal: 35%
- I agree mostly: 39%
- I agree somewhat: 24%
- I disagree: 2%
Lesson learned

On "Narrative platform" Q3: There have been some financial/logistic constraints during the development of the current narrative. The current narrative platform is media clips + in-lecture narrative + in-between lecture posts on portal/blog. Which component(s) of the current platform worked the best for you (and you'd like to see an expansion of)? You may choose multiple answers. (multiple answer question)

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- Media clips - video: 22%
- Media clips - audio: 10%
- In-lecture narrative from instructor: 35%
- Posts on portal: 34%
Some tips on how to get started

• Backward design (Dee Fink: *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*)
• No self-censoring, just start writing!
• Find like-minded collaborators
• Ask a small group of students for a preview
• Long-term commitment
The course website

“Sussie Lin’s Guide to Life Contingency Galaxy” can be viewed here: http://vickizhang.wixsite.com/lifecontingencies
Questions? Comments?

• Care to share your experience with narrative-based pedagogy?
• Questions & comments?
• Email me at vicki@utstat.toronto.edu
• THANK YOU!