

# Narrative in Mathematics

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We all love a good story. One reason for that is certainly that we are able to involve ourselves in the narrative, and imagine what it might be like to be there. What makes that involvement so active and creative is the existence of a narrative *thread* which gives coherence to the events and which keeps us asking how it might turn out. So that as the story unfolds we have to often go back along the thread and reinterpret its past in the light of recent events and then revise our projections. It's an engaging process.

When I talk about the power of narrative in a math class, my colleagues typically think of stories from the history of mathematics—moments of great discovery or perhaps even better, the grueling political, social or physical struggles faced by many famous mathematicians.

These are well worth talking about but there are more fundamental narrative processes available that can be made an integral part of the lesson. For example, a math problem can emerge from a dilemma faced by a fictional character. "Angela takes a routine blood test which happens to give a positive result for a rare disease with a reliability of 95%. What does all that mean? She enlists your help, and you go on-line, together..."

We can also go back in our own mathematical lives: "This was a crisis in my teen-age life, because, having satisfied myself that a hole in a tire and a hole in a water tank were completely analogous, I had an equally plausible argument that they were, mathematically, completely different processes. Try as I might, I couldn't resolve the issue, and the next day I went to see Mr. Suter my old Grade 10 Science teacher."

Another idea to make technical drill come alive is to construct a game in which different students have different ideas on the best strategy and the search for this involves some technical work.

Finally I can think of another, perhaps deeper, aspect of narrative. In any class or lecture, there are the details of the example, but there are also, behind the scenes, more fundamental forces at work, often in conflict, striving for some sort of *rapprochement*. Good examples are the tension between the concrete and the abstract, and between order and chaos. Paying attention to these, giving them external realities, even personalities, is a narrative device which can raise the student to a more powerful level of understanding.