

# THE STORY WITHIN LESSONS: HIGHLIGHTING MOMENTS OF STUDENT INQUIRY

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## Abstract

The curricular decisions of K-12 mathematics teachers affect student learning. One way to make sense of this is to find the story within the lesson. Writing the story of a lesson by identifying the plot, characters, settings, and actions reveals the questions that drive student mathematical curiosity and inquiry (Dietiker, 2015). Drawing attention to these moments provides a new perspective for teachers as they plan, teach, and reflect on their lessons and work to improve their instruction for their students as they see the possible advantages and disadvantages of the ordering of mathematical tasks. This work extends Dietiker's thinking through writing the story of calculus lessons introducing the definite integral.

## Introduction

Have you ever considered how the textbook shapes the way you teach? The order in which concepts are introduced, how concepts are explained, and the connections between concepts are dictated by the opinions of the textbook designers. Each lesson has a "story" to tell. These "stories" are unique and alter teacher instruction and student learning (Grossman & Thompson., 2019; Remillard et al., 2014). Therefore, it is important for teachers to understand both the lesson in the textbook and how best to use the textbook as a resource for their instruction. One way to better understand the textbook is to make sense of the mathematical stories (Dietiker, 2015) the textbook lessons and the enacted lessons tell.

## Theoretical Perspective

The narrative framework (Dietiker, 2015) provides one way to write the mathematical story, defined as a metaphorical "interpretation of the chronological sequence of mathematical changes" (p. 288). Mathematical stories, can captivate the reader by how information emerges. Similar to literary stories, mathematical stories contain *characters* (i.e., an equation) experiencing *actions* (i.e., writing an equation in factored form), taking place in a *setting(s)* (i.e., manipulatives like Algebra tiles) that combine to create the *plot* (i.e., the reader's aesthetic response to the story (Bal, 2009)). The structure of the story allows for curiosity as the reader seeks new information. Through the reveal of information, the reader is assumed in written lessons to makes progress in understanding and this progress creates the *story arc*.

## Discussion

Analyzing a lesson through a narrative framework (Dietiker, 2015) provides teachers and researchers with a new perspective on the curriculum and a deeper understanding of lessons and how variations can alter student learning. Variations, including the ordering of questions and the duration of time students spend on one particular question, highlight moments of inquiry as some questions are resolved quickly, others continue across multiple acts, and even others are never answered.

## References

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