USING STUDENT-DEVELOPED COMICS TO ENHANCE LEARNING OF FLUID MECHANICS

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Overview

- Using student developed comics to promote learning of transport phenomena concepts
- Visual literacy
  - The education of young children often begins with picture books
  - By middle school, these visuals are minimized or altogether discarded
- Perceived epidemic of “illiteracy” due to a lack of visual media in the classroom.
- Comics support how the brain processes and produces information:
  - Language + Images

Proposal

- Comics have struggled
  - Juvenile
  - Low-brow
- Why teach with comics?
  - Less expensive
  - Not intimidating to students
- Have been used in:
  - Chemical engineering
  - First year engineering graphics course
  - Computer software course
- Haven’t been student developed

Classroom Implementation

- Develop a comic to describe a topic in fluid mechanics to the average junior year chemical engineering student
- Honors project and optional for rest of class
- 6 comics generated by teams of 3 – 4 students (self selected)

Assessment

- Examples and resources were shared for each deliverable
- Content/Research: 40%
- Craft: 25%
- Aesthetics (e.g., no stick figures): 10%
- Completion: 25%

Future Work

- Quantitatively assess effect of comics on learning gains
- Working with UConn School of Fine Arts to:
  - Develop co-listed engineering and fine arts courses
  - Wearable electronics for the stage
  - Drawing for engineers
  - Offer interdisciplinary senior design projects

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