

# Using Educational Comics to Promote Student Interest in Chemical Engineering

Authors: Ira Hysi, Monica Keszler, Luke Landherr

## Background and Goals

We aim to analyze how student involvement and success in chemical engineering can be encouraged with novel educational tools about the breadth of the field.

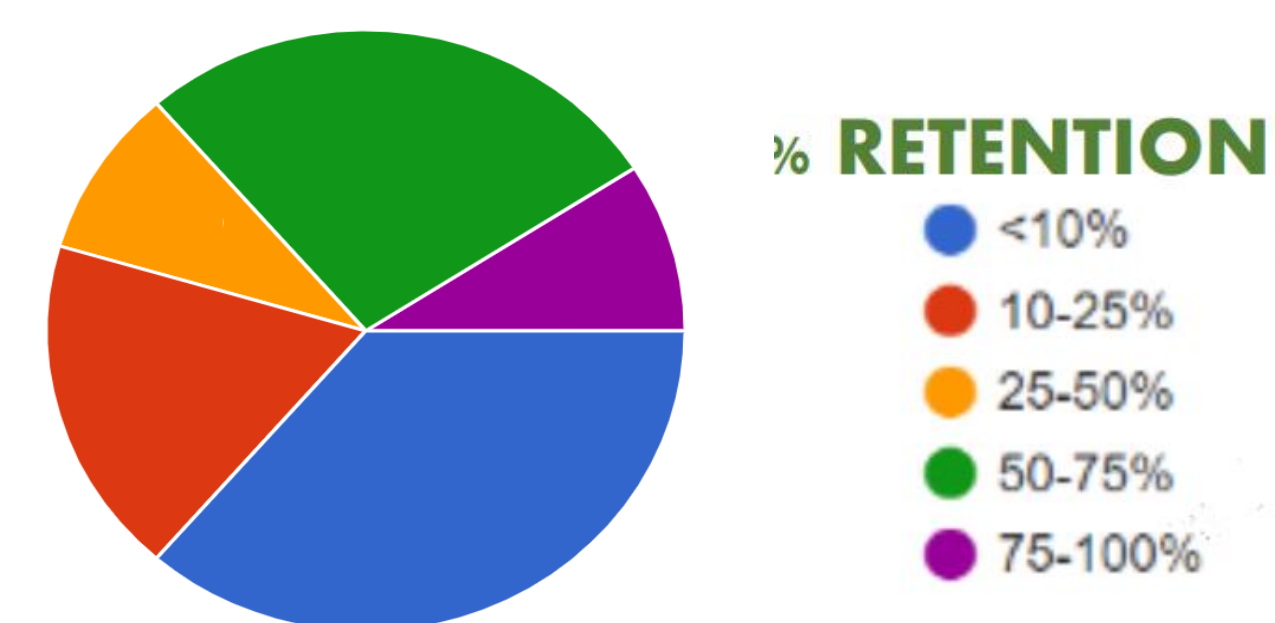
Can comics be used to introduce students to the scope of chemical engineering?

## Process and Methods

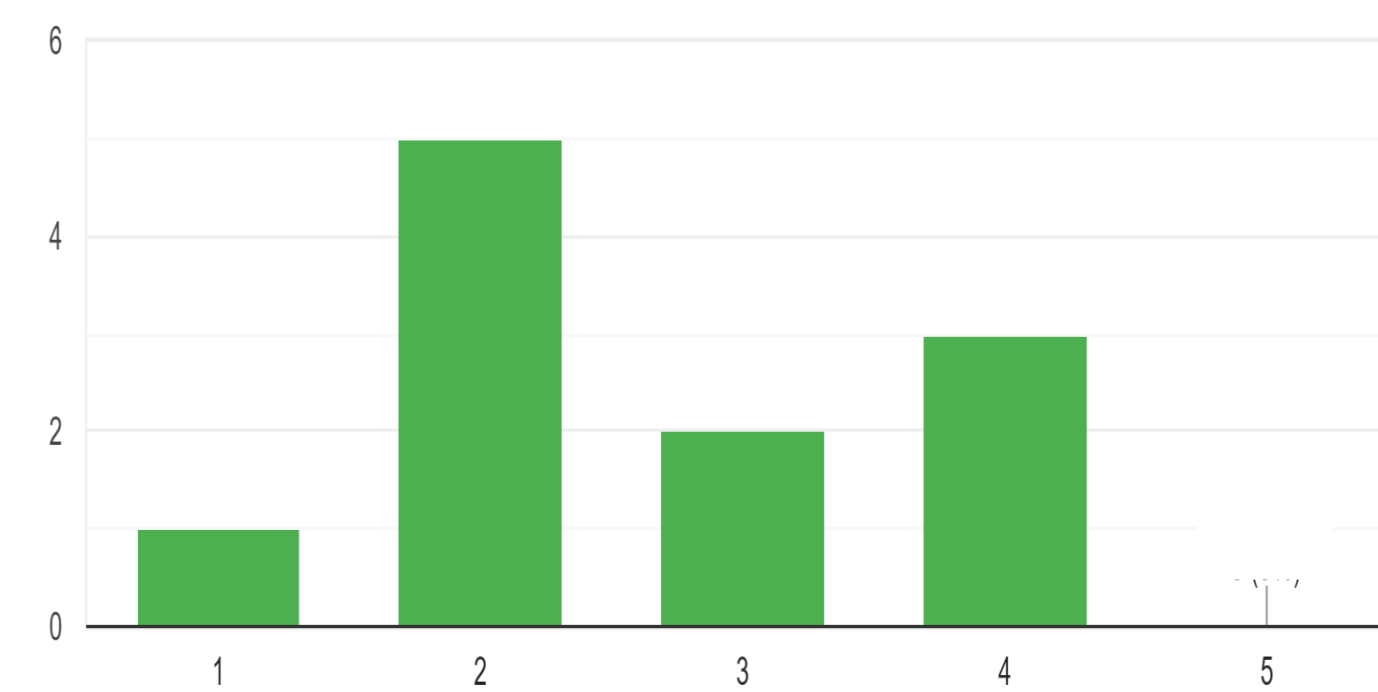
### Previous Work

Constructed & distributed a comic on voltaic cells to students to understand their engagement & retention of comic content

Varied Level of Retention



Varied Level of Engagement:



### Current Study



Comic detailing various chemical engineering industries such as energy, agriculture, and drug delivery

SCAN THIS QR CODE FOR THE COMIC!



## Findings

Comic was distributed to 200+ students in their Introduction to Engineering Course at Northeastern University

**Students Mostly Identified As Visual & Sequential Learners**

Positive feedback on multiple platforms

### STUDENTS

**85%** of students would recommend using comics as a learning tool in classrooms!

### STUDENTS RESONATED WITH:

- MAKING AN IMPACT THROUGH STEM
- EASY TO UNDERSTAND LANGUAGE
- THE VISUALS & CREATIVITY
- LEARNING ABOUT THE SCOPE OF CHME

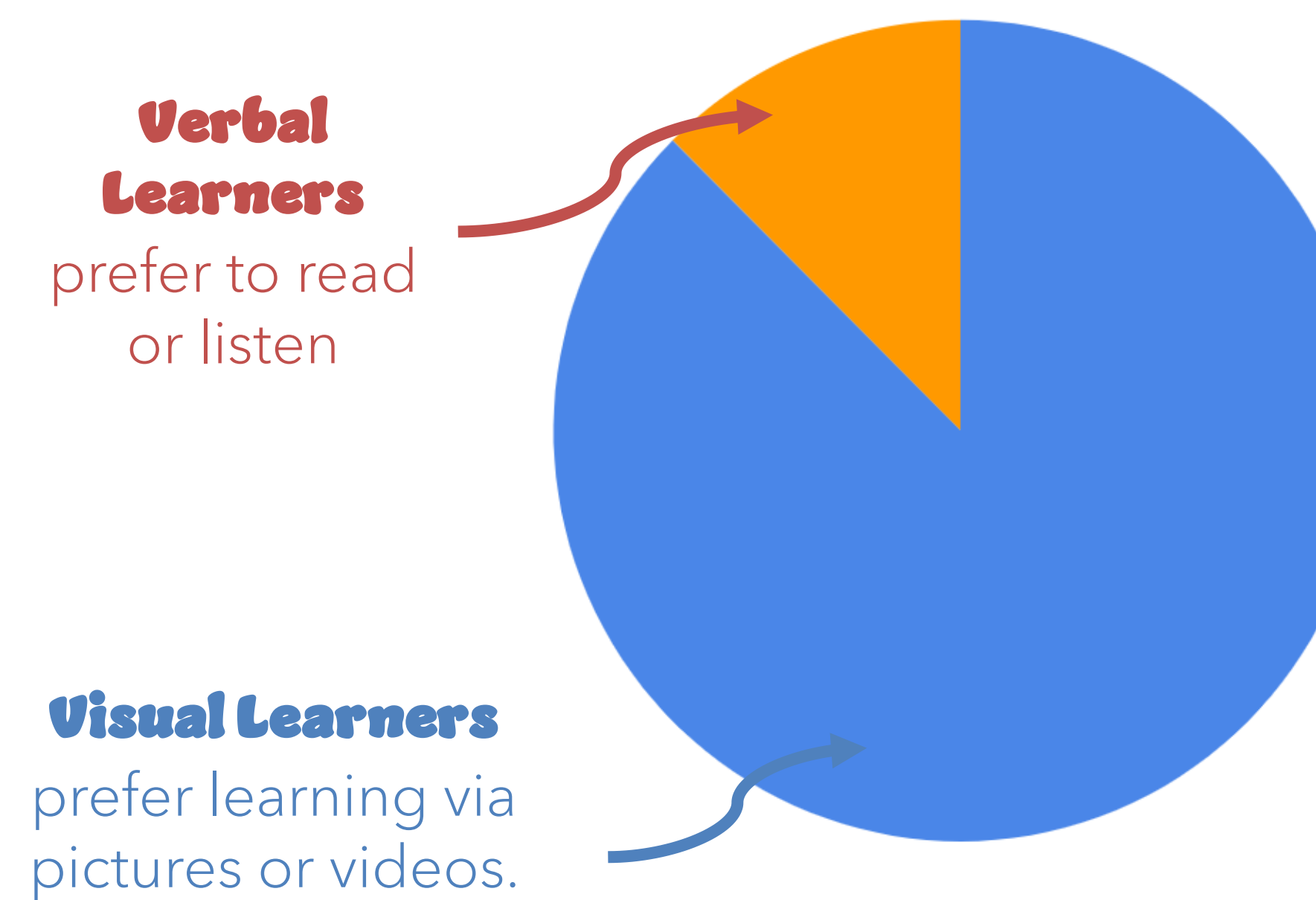
## Future Scope

ADDITIONAL INSTITUTIONS  
Assess quantitative impact at additional institutions and in K-12 on retention, growth in major

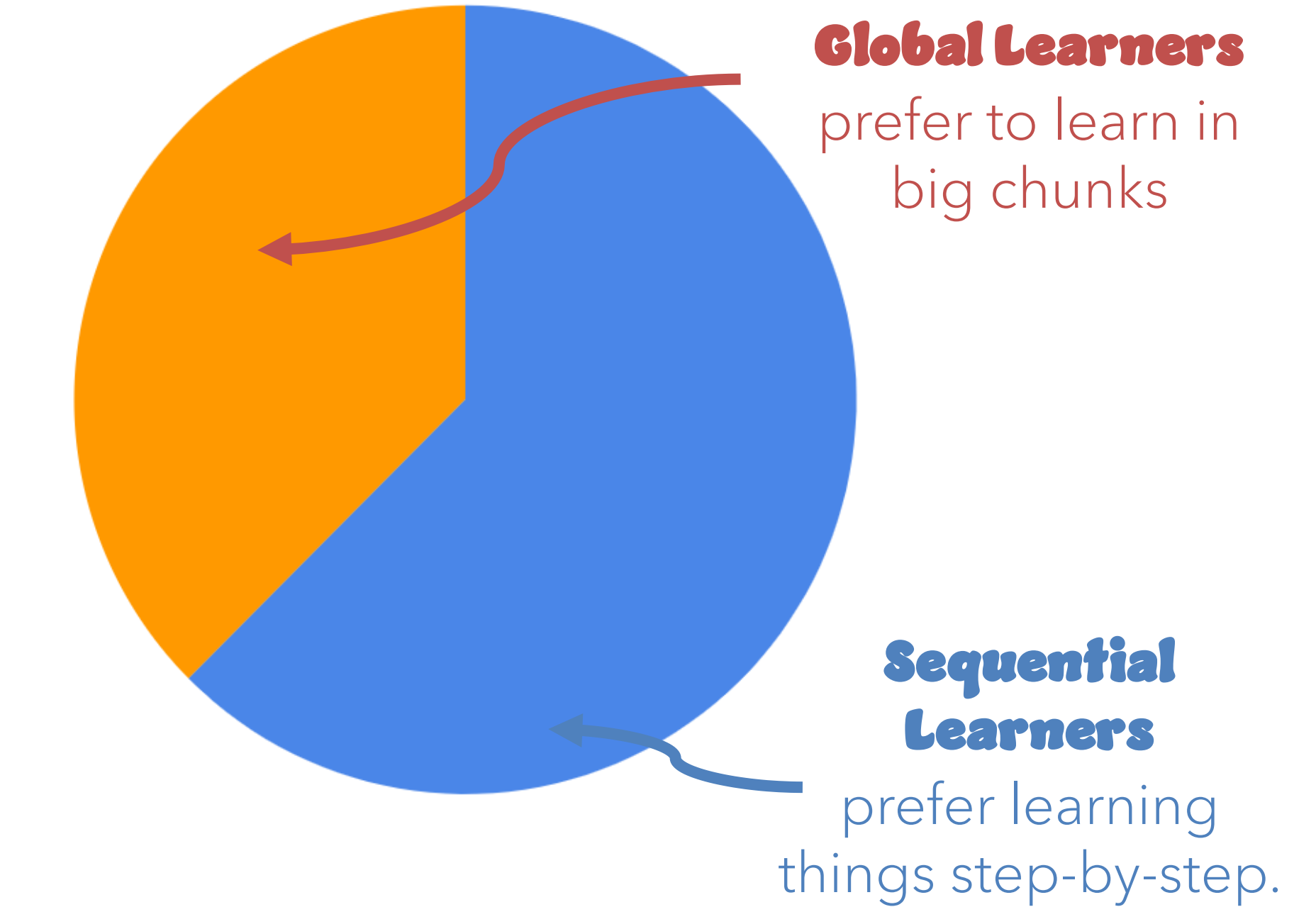
MUSIC MODEL  
Implement MUSIC Model of Motivation & Personal Interviews

TRANSLATION  
Translate to other languages (requests for Portuguese, Tamil, etc.)

### Verbal v. Visual



### Global v. Sequential



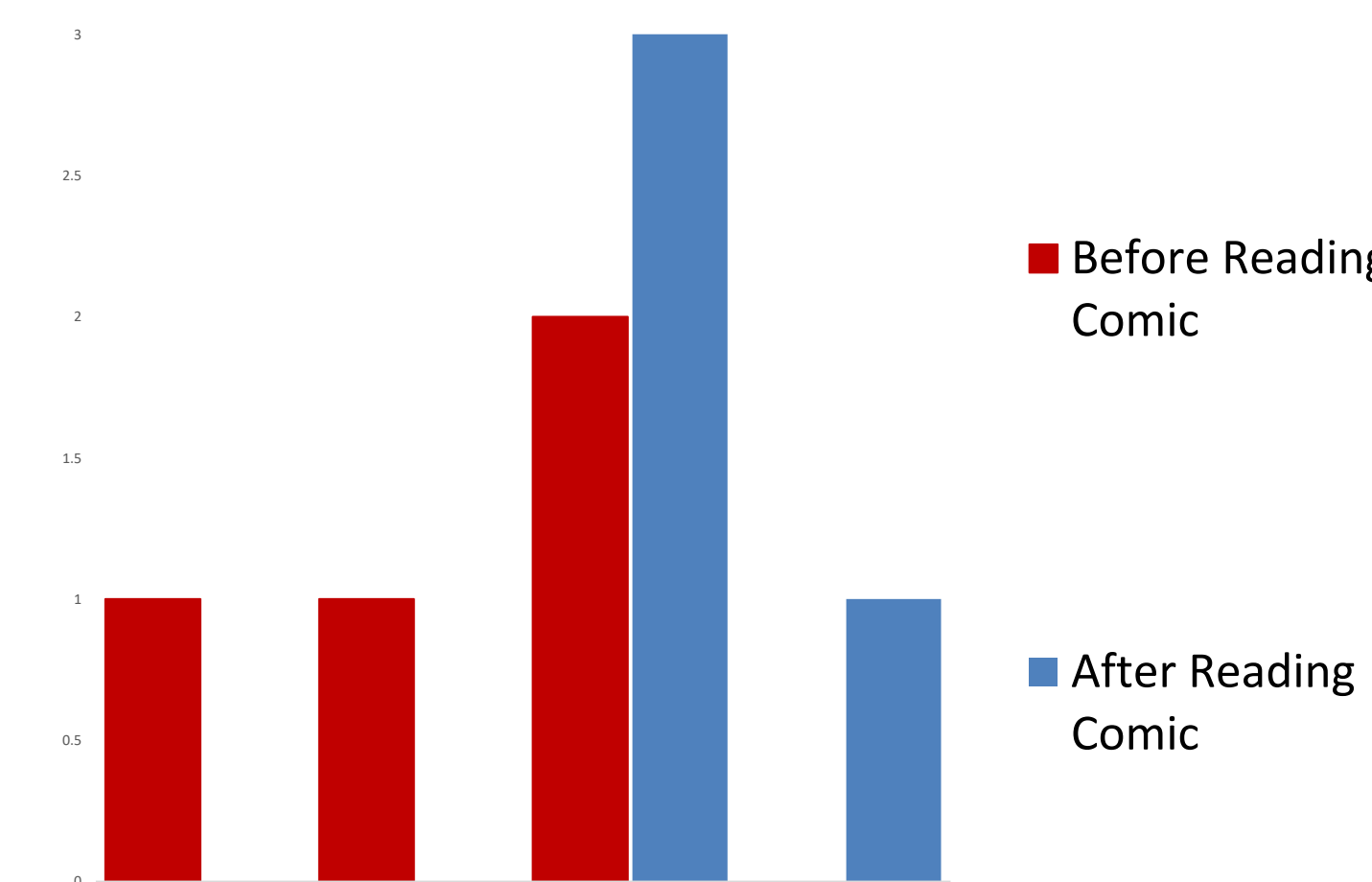
### PROFESSIONAL ACADEMIC

“An incredible and wonderful simplified illustration of Chemical Engineering as a profession.”  
- Honorary Research Fellow at University of Wolverhampton

### PROFESSIONAL INDUSTRY

“Love this comic! It brilliantly captures the essence of chemical engineering is all about - the perfect blend of science, creativity, and problem-solving”  
- Sales & Technical Support Engineer

### Student Level of Comprehension



**LinkedIn Stats**

- 275
- 153K
- 1500

## Conclusions

Comics can be effective at better introducing breadth of ChemE field in formal learning environments. More quantitative analysis is necessary to fully understand the impact on students of different ages, learning preferences, and backgrounds.

## Acknowledgment

Thank you to AIChE Foundation, AIChE K-12 Committee, and AIChE's Doing a World of Good initiative. We would also like to thank the illustrator Monica Keszler and Prof. Luke Landherr for their contributions to this work.