

# Teaching Young Science Scholars to Write “Unscientifically”

## Rationale

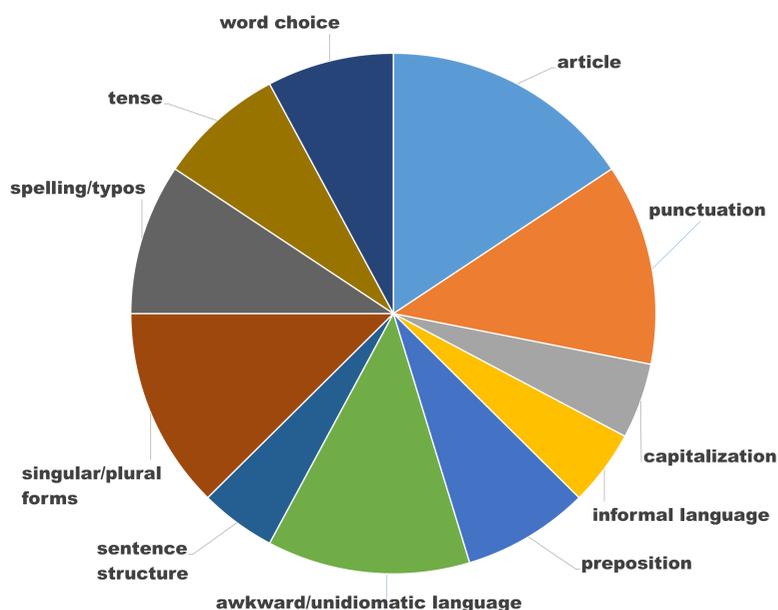
To be successful in their academic and professional careers, STEM students must be able to communicate their research beyond the rarefied bubble of the laboratory. A special section of FLE 402, Advanced Writing for International Students, was designed to enable international engineering PhD students to acquire the American English academic writing conventions and rhetorical moves which will enable them to share their research with diverse populations

## Objectives

Students will:

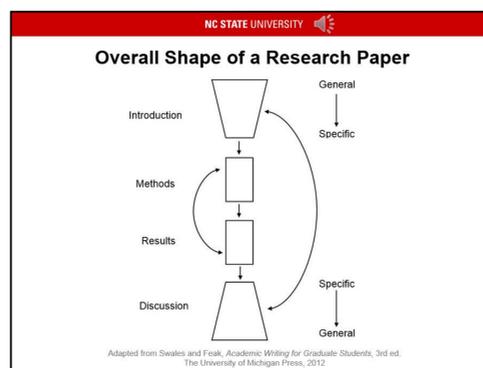
- realize that scientific writing is not necessarily dry and devoid of creativity and imagination
- build academic vocabulary and recognize language, style, and register appropriate for academic writing in their fields of study
- understand the protocols of various academic and professional genres and how to effectively position themselves within the academic community
- learn to critically judge their own and others' work and to collaborate effectively with peers in the academic community
- acquire the ability to properly use and document sources

## Frequent Writing Errors



## Learning Activities

- the use of videos, PowerPoint presentations, and a variety of inter-active learning activities both inside and outside of the classroom



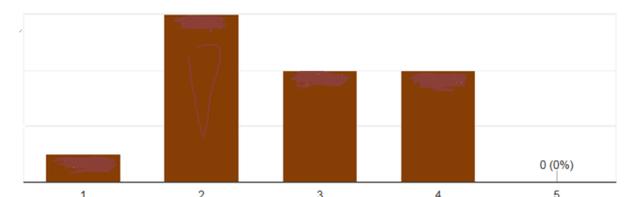
- extensive practice to refine written skills in areas such as grammar, mechanics, syntax and style
- receiving both verbal and written formative assessment from instructor
- frequent in-depth peer reviews
- detailed analysis of the components and rhetorical moves of a research paper
- Projects completed:
  - 1) A research paper
  - 2) A conference abstract
  - 3) A critique of a journal article
  - 4) A presentation explaining student's research to the public

## Student Survey Results

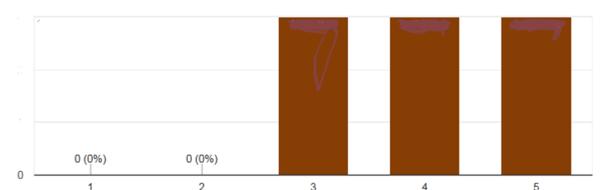
The following question was listed on a student self-assessment form distributed at the beginning and at the end of the first semester of the special FLE 402 course section for engineering students. Survey respondents specified their levels of disagreement or agreement on a 5-point Likert scale, with 1 being *strongly disagree* and 5 indicating *strongly agree*:

*The written work I submit to professors in my major courses is generally judged to be of high caliber, with few corrections.*

Initial Assessment



Final Assessment



## Conclusion

Through elucidation of key writing concepts - such as the reader expectation approach to writing, appropriate and precise word choice and proper sentence construction - and via numerous iterations of their texts, students will significantly improve their writing skills. Young science scholars can learn that “scientific writing” is both challenging and rewarding, that it is creative and elegant, and that it can be meaningful far beyond the laboratory.

***“Before taking this course, I did not know technical writing is supposed to allow readers to understand our work.”***

## Acknowledgments

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