

# Module 1-2: Lab Report Rhetorical Analysis: *Engineering lab report vs FYC research paper*

By

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# Objectives/Student Outcomes

## ➤ Objectives:

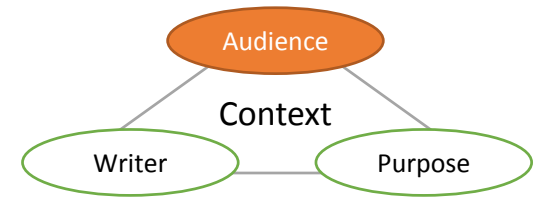
- This slide identifies the genre expectations of engineering lab reports for students. It also provides a comparative rhetorical analysis of genre features between engineering lab reports and FYC research papers.

## ➤ Student outcomes: After completion of this module component, students are able to

- Describe the audience, writer, purpose, and the context of engineering lab reports as a genre.
- Define the distinct genre features of engineering lab reports compared to FYC research papers.

# Lab report as a genre

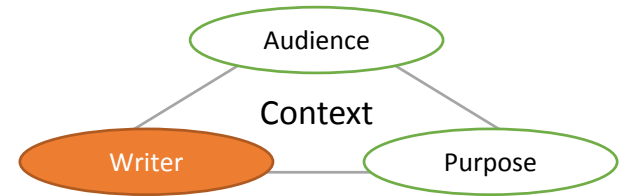
## 1. Audience: Engineers



- Engineers are the **decision makers** who affect the design that enables the beneficial manipulation of nature.
- Engineers saw their work as **problem solving**, almost always done in **a team setting**.
- They cited **clear communication** as the most important skills.
- They also cited **budgets and time limitations** as the most significant constraints.
- They generally **valued** solving a problem, learning, and working in a team.

# Lab report as a genre

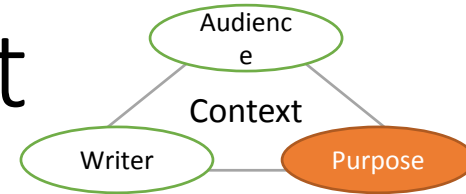
## 2. Writer: Engineering undergraduates



- Fairly **new** to the engineering disciplines.
- Primarily experienced **doing research** using materials from outside of lectures or labs. However, they mostly did research on humanities or sciences.
- Primarily experienced **screening** credible sources in humanities and sciences for writing research papers.

# Lab report as a genre

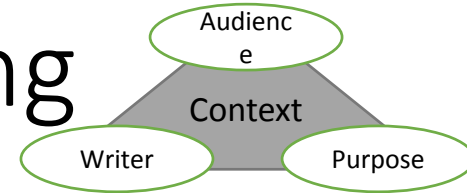
## 3. Purpose: Lab report



- Present experimental procedures clearly, so anyone can repeat them.
- Report the experimental results and the **disciplinary findings** to the audience.
- Evaluate the importance of results through data analysis and use of sources.

# Lab report as a genre

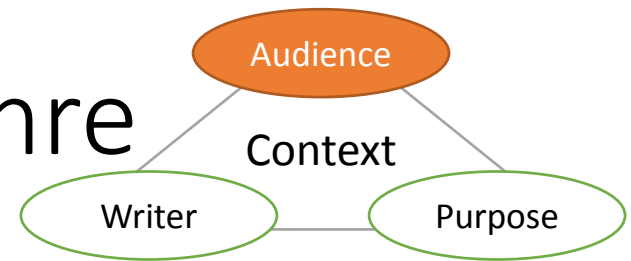
## 4. Context: Engineering



- Problem solving
- Manipulation of nature to benefit humankind
- Working in constraints
- Working in teams
- Quantitative approach
- Everyday evolution

# Research paper as a genre

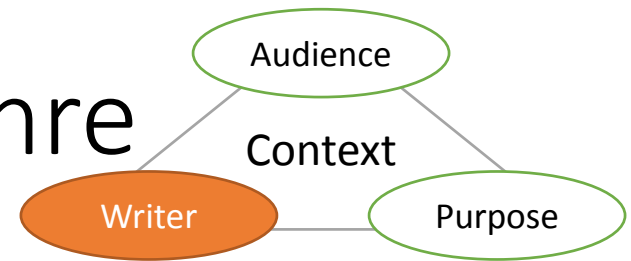
## 1. Audience: Peers



- College student peers function as a general academic audience.
- FYC works to develop a community of writers and discourse community.
- Some assignments are structured to focus on real-world audiences.

# Research paper as a genre

## 2. Writer: Freshmen

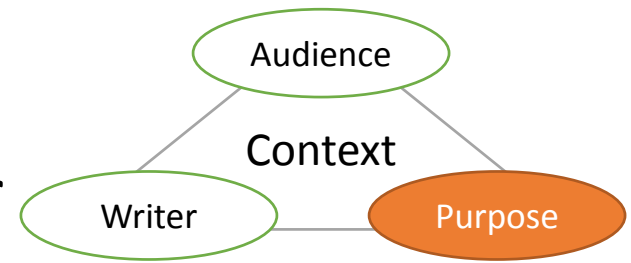


- New to academia and the university environment.
- Familiar with writing research papers in high school; less familiar with research paper expectations in college.
- Less familiar with an understanding of rhetorical knowledge/awareness, genre awareness, and academic research conventions.



# Research paper as a genre

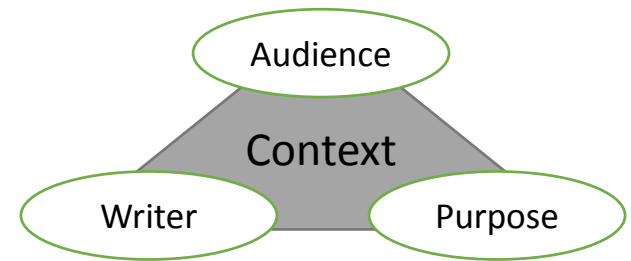
## 3. Purpose: Research paper



- To investigate and research an issue or position.
- To use a variety of sources effectively to create a well-developed argument.
- To address the audience effectively by using rhetorical strategies and appeals skillfully and ethically.
- To assert and support a position; to persuade.

# Research paper as a genre

## 4. Context: Academic writing



- Academic Writing as developing and practicing foundational, cross-disciplinary writing skills.
- Research paper as “mutt” genre.
- Emphasis in FYC on critical thinking and rhetorical awareness.
- Emphasis in FYC on secondary sources and qualitative data.

# Comparative Analysis of Genre Features

## Engineering Lab Report

### 1) Engineering Lab Report Format

- Intro: So What? In
- Body:
  - Procedures or Methods of Approach: concise, reproducible
  - Results and Discussions: present your findings and discuss them
- Conclusion: So What? Out

### 2) Findings (data from the lab) based.

### 3) 3 components in paragraphs

- Claims (experimental finding)
- Evidence (experimental data, estimated data, reference data, theories from the references, etc)
- Analysis (How the evidence supports the claim both quantitatively and qualitatively.)

vs

## FYC Research Paper

### 1) Research Paper Format

- Intro: So What? In
- Body
- Conclusion: So What? Out

### 2) Thesis statement based.

### 3) 3 components in paragraphs

- Claims (opinion, statement, etc)
- Evidence (primary sources: a novel, a letter, a historical event, data, etc; secondary sources: analysis of primary sources)
- Analysis (How the evidence supports and qualifies the claim.)

# Summary of Module 1-2: Lab Report Rhetorical Analysis

	Typical Engineering lab reports	Typical FYC research papers
Audience	Engineers, engineering students, etc	College students, public citizens, etc
Writer	Engineering undergraduates	First year college students (multiple majors)
Purpose	To report the background, the lab process, the lab results and the disciplinary findings to the audience.	To research, support, and assert a position on a datable issue using a variety of effective rhetorical strategies.
Context	Engineering discipline and profession.	Academic writing and general education.
Format	Intro → Body (Procedure; Results; Discussion) → Conclusion	Intro → Body → Conclusion
	Hypothesis and/or findings from the lab valued	Thesis statement and multiple sources valued

# Module 1-2 Review Questions

- Define the audience of engineering lab reports and describe the characteristics of the audience.
- Describe the purpose of lab reports.
- Compare the contexts between lab reports and FYC research papers.
- Describe the similarities and differences of the formats between the lab reports and FYC research papers.