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

By
Writing Transfer Research Team
WSU Vancouver and Clark College

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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 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.)

### 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

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