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

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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.

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

<table>
<thead>
<tr>
<th>Engineering Lab Report</th>
<th>vs</th>
<th>FYC Research Paper</th>
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</thead>
<tbody>
<tr>
<td><strong>1) Engineering Lab Report Format</strong></td>
<td></td>
<td></td>
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<tr>
<td>• Intro: So What? In</td>
<td></td>
<td></td>
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<tr>
<td>• Body:</td>
<td></td>
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<tr>
<td>• Procedures or Methods of Approach: concise, reproducible</td>
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<tr>
<td>• Results and Discussions: present your findings and discuss them</td>
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<tr>
<td>• Conclusion: So What? Out</td>
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<tr>
<td><strong>2) Findings (data from the lab) based.</strong></td>
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<tr>
<td><strong>3) 3 components in paragraphs</strong></td>
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<tr>
<td>• Claims (experimental finding)</td>
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<tr>
<td>• Evidence (experimental data, estimated data, reference data, theories from the references, etc)</td>
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<tr>
<td>• Analysis (How the evidence supports the claim both quantitatively and qualitatively.)</td>
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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><strong>Typical Engineering lab reports</strong></th>
<th><strong>Typical FYC research papers</strong></th>
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<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>
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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.