Spring 2017

Topic Generation and Development in the Freshman Research Paper

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The Freshman Research Paper: Topic Generation and Development
Edward Eckel, Engineering and Applied Sciences Librarian
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Introduction
This study examines how students of a freshman engineering class (IEE1020 Technical Communications, taught by Professor Thomas Swartz) come up with an initial topic for their research paper, how they refine or develop that topic into something they can find adequate research sources on, and how they shape that topic into a purpose or thesis statement for the paper.

Background
Student starts here: No topic and no prior disciplinary instruction = No context

What happens here?

Topic developed enough to write a 12 page research paper.

Rationale
Many students in IEE1020 appear to struggle with the process of topic selection and development. This raises the question of whether or not students are receiving the proper support and instruction for this phase of the research paper process.

Research Questions
This study asks the following questions:
• How do students in IEE1020 go about generating or selecting a topic for a research/term paper?
• What difficulties do students encounter in developing a thesis statement from an initial topic idea?
• What resources (information, people) do the students use to help them do this?
• Do students achieve appropriately focused topics for their papers?

Research Design
Three research methodologies were utilized in this study:
• Short online surveys using Select Survey software were administered to the student participants every two weeks during the main paper research/writing phase.
• A half-hour in-person qualitative interview at the end of the semester. Will be analyzed using grounded theory methodology (Strauss & Corbin 1990).
• Use of a rubric (Rinto, Bowles-Terry, & Santos 2016) to assess the final submitted purpose statements for their appropriate focus.

Fall 2016 – 5 participants (honors students)
Spring 2017 – 28 participants (non-honors students)

Preliminary Results – Fall 2016
The rubric used to assess student thesis statements has three skill levels
• Beginning (1 point)
• Developing (2 points)
• Exemplary (3 points)

Scores for student thesis statements in the fall 2016 group are listed below.

<table>
<thead>
<tr>
<th>Researchability</th>
<th>Breadth</th>
<th>Topic related vocabulary</th>
<th>Arguable topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>3.0</td>
<td>1.7</td>
<td>1.7</td>
</tr>
</tbody>
</table>

From the rubric scores, it appears that, while students are able to come up with research topics that are researchable given library resources, they are less successful in developing topics that have an appropriate breadth, use relevant vocabulary and have an actual argument.

Discussion
Due to the small sample size in the fall 2016 study cohort, no valid conclusions can be drawn about student thesis statements.

Student descriptions of the topic development process (Fall 2016) were vague and lacked specificity. Students appeared to be satisfied with final thesis statements.

Next Steps
For the spring 2017 cohort, the investigator intends to recruit additional librarian colleagues to assist with rubric evaluation, to increase assessment validity.

Interview IEE1020 instructors regarding their expectations for student thesis statements, and compare this to the Rinto rubric.

Acknowledgements
Thanks to Thomas Swartz, Department of Industrial and Entrepreneurial Engineering and Engineering Management in the College of Engineering and Applied Sciences, for allowing me to work with his students.

This project was supported by an WMU Assessment Fellows Grant for the 2016/17 academic year.

References