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Honors Research Reflection Assignment

In this term's technical writing course, Professor Rosenow tasked us with writing a comparative analysis to answer the question: is PowerPoint or Prezi the best presentation software for technical writing students at Lane Community College? My research and analysis were based on two criteria: ease of use and effectiveness for audience comprehension. I selected these because I expected them to drive compelling research that was aligned with my curiosities, and because they would address the components of college-level education that are most important to student success.

To begin my exploration of these criteria, I analyzed the audience for which the recommendation would be applied in order to understand the context of their needs. In doing so, I developed additional questions that would help formulate my approach to making a determination: What types of challenges would students face in the process of using either software? Would either software cater more to audiences with particular learning styles?

During the research process, I prioritized scholarly literature that was relevant to academic settings because they provided balanced, unbiased data. Awareness of bias was something I strove for throughout my research. Because of this, I avoided blogs and articles that provided conclusions or opinions that weren't supported by objective, credible evidence, as my review of experimental studies revealed a strong correlation between familiarity and preference, especially with regard to PowerPoint because of its long-standing popularity.

Part of my effort to present unbiased data was the decision to exclude a page from Prezi's website titled "The science of effective presentations," which summarized a study that compared Prezi with PowerPoint. Though the data Prezi selected to present was accurate, I felt it more appropriate to review the study and its findings myself, so as not to incorporate Prezi's influence into my own interpretations. Sourcing the study itself – *Does a presentation's medium affect its message? PowerPoint, Prezi, and oral presentations*, conducted by Samuel T. Moulton, Selen Türkay, and Stephen M. Kosslyn – contributed significantly to my research, as it provided the full scope of the comparison, which provided support for its conclusions.

One challenge that presented itself during the research process was finding scholarly sources about the use of PowerPoint that fit the context of my research; the majority of existing literature addressed use by instructors for lectures and the presentation of course materials rather than student use. To work around this, I expanded my search to include non-scholarly sources and examined the results for bias and promotional affiliations until I found sources and perspectives that I felt were sufficiently objective.

Conducting this research challenged me to think about the ways in which we process new information, and how various methods of information presentation can impact that processing. I was unfamiliar with Prezi when I began my research, and had never questioned the effectiveness of the linear slide format that PowerPoint provides. As I learned more about zooming user interfaces (ZUIs), I became intrigued by the concept of spatial learning and the promotion of conveying relationships in addition to standalone or compartmentalized concepts. Learning about cognitive load and active processing and how they factor into student learning was also very interesting; it reinforced the idea that we subconsciously take the path of least resistance – even when actively challenging ourselves to learn – and using tools that are

designed to work with that tendency, rather than against it, promotes a deeper, more organic understanding of new information.

There were two sources that were key to my research in terms of foundational knowledge: the previously mentioned study by Samuel T. Moulton, Selen Türkay, and Stephen M. Kosslyn, and *Effects of Lectures with PowerPoint or Prezi Presentations on Cognitive Load, Recall, and Conceptual Learning* by Özcan Erkan Akgün, Aslıhan Babur Yılmaz, and Ebru Albayrak. Both of these experimental studies detailed users' experiences with PowerPoint and Prezi and used various methods of measuring their effectiveness. Each study's interpretation of their findings included breakdowns of PowerPoint's and Prezi's distinguishing features, and how these features facilitate different types of learning. This was extremely valuable, as it helped me develop a strong understanding of how effective each presentation tool is in different settings.

Another notable source was *The Cognitive Load of PowerPoint: Q&A with Richard E. Mayer*, an interview of Richard Mayer, Ph.D, a professor of psychology at UCSB, conducted by Cliff Atkinson. Mayer's research of multimedia learning was what allowed me to build upon the foundational knowledge I'd gathered and begin exploring the cognitive component of my comparative analysis, and is what guided me to the conclusion that Prezi would be more effective for students to use. His perspective was particularly impactful because of its consideration of the human element of learning. The concept of learning relationships in order to understand concepts more effectively resonated with me; as a student with ADHD, I understand the importance of being able to relate new information to existing knowledge in order to internalize it. Ultimately, I deduced that Mayer's suggested approach to multimedia learning would provide the best support to students with varying learning styles, and I was able to compare the characteristics of this approach to the characteristics of PowerPoint and Prezi in order to determine which tool would best support student learning.

My main takeaway from myself as a researcher is my tendency for bias; throughout my analysis, I found myself eager to first determine which software I wanted to support, and then to follow with "evidence" that would support my determination. I learned to challenge this impulse, and to instead evaluate my research findings, as well as any gaps, in order to determine the direction I should take. The component of my research process I found to be most valuable was writing annotations for each of my sources. This helped me immensely when it came time to take inventory of my findings and interpret the data I had gathered. In my next research undertaking, I hope to have more time to dedicate to the research phase so that I can delve deeper into my research topic.

The biggest piece of advice I can offer to other researchers is to follow their curiosities, and to let their research be driven by what genuinely interests them. Not only does this make for a more enjoyable and fulfilling experience, but it also produces compelling and meaningful results. Aside from this, I suggest taking ample time to read, digest, and analyze literature. And lastly, I recommend taking notes, whether in the form of annotated bibliographies or scribbles in margins. What builds a well-rounded analysis is being able to address a topic from different vantage points, and being able to trace one's thinking back through various perspectives will help guide the reader through the research journey, from inquiry to conclusion.

Read my comparative analytical report here.