

Introducing Quad Chart to Reinforce Technical Communication Skills

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GIFTS: Introducing Quad Chart to Reinforce Technical Communication Skills

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Introduction

Engineers are global communicators. Our first-year engineering students write and present technical reports, lab reports, capstone projects, formal emails, posters, elevator pitches and more, to communicate their technical knowledge globally to a wide variety of audiences. They are required to present information as concisely and objectively as possible. Although the importance of communication may seem self-evident, our students need to be more motivated to improve their writing and communication skills. Communication is a vital skill that can be learned and developed. A quick and efficient way of communicating complex technical ideas is by using a genre like *quad chart*. Through this tool, students can outline information and incorporate visuals in the planning stages of the composition process. A quad chart can also be integrated within a collaborative project to facilitate effective project planning and team-building skills within student teams. This pedagogical genre has not yet been implemented on our first-year engineering students.

Methodology

A quad chart comprises a single page divided into four quadrants laid on a landscape perspective. It is a universal tool, and our engineering students can use it in multiple ways - for a quick introduction of their professional and academic activities, short briefings, an initial research proposal, lab report, or the summary of a research effort. This tool was implemented on graduate students enrolled in a technical writing course. They were asked to develop an outline and present their ongoing research which identified the objective, methodology, results obtained, and discussion of their work, all while using a *quad chart*. They were given five minutes to present their work. They broke down their information into four quadrants. The first quadrant focused on *Introduction* where they looked at the background of their research and outlined the problem. The second highlighted a succinct, bulleted *Methodology*, where students discussed experimental details. The third quadrant encompassed a graphic representation of *Results* where they examined the findings, and the fourth focused on *Conclusion* to interpret the findings, acknowledge limitations and discuss future studies in current work.

Results and Discussion

This pedagogical genre served as an easy reference tool for students to effectively communicate the project, highlighting key takeaways. They learned to condense an entire project layout into a few well-organized points. They also learned to structure their concept into manageable pieces and outline the specifics of each piece and build on it progressively.

If this pedagogical practice is implemented on first-year engineering students, it will have a significant impact on their ability to organize, streamline and communicate an idea, provide a quick overview of a project, or even showcase their academic and professional accomplishments through a resume, cover letter, elevator pitch and other persuasive technical documents. From their freshmen year, they will develop confidence to write and present simply, concisely, accurately, and coherently. This skill will carry on with them in their future careers, aiding them in successful articulation of ideas, technical information, and research to a global audience.