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**Review of Sandra Ingram & Anne Parker
Gender and Collaboration: Communication
Styles in the Engineering Classroom.**

Halifax: Fernwood Publishing, 2002. 125

pages.

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The chronological approach is somewhat numbing and tedious. Bumsted frequently includes developments that appear trivial from an outsider's perspective. The text provides little analysis and the cascade of events, one after another, leads to information overload. Moreover, the epilogue is excessively promotional. However, overall, Bumsted's history of The University of Manitoba is a useful tool for meditating, especially in a visual way, on the evolution of an important Canadian institution of higher learning. It certainly shows that religion helped to define higher education in 19th century Canada, that college federation had its pros and cons, that educational institutions were closely linked to their environments, and that student life has changed in remarkable ways. This attractive, illustrated anniversary chronicle whets the appetite for a full-scale interpretive study that thoroughly investigates the rich history of The University of Manitoba.



Ingram, S., & Parker, A. (2002). *Gender and Collaboration: Communication Styles in the Engineering Classroom*. Fernwood Publishing: Halifax, NS. Pages: 125.
Price: \$14.95 (paper).

Reviewed by Ana Jofré, University of Toronto.

Gender and Collaboration presents a much-needed study of the effects of gender on communication styles and teamwork dynamics in the engineering classroom. Studies on gender-linked patterns of behaviour are particularly significant for traditionally male-dominated fields, such as engineering, where women may feel excluded from a culture that was created and developed entirely by men. In order to attain full participation in their chosen profession, it is imperative that women be included into the culture of their

profession. A study of interpersonal interactions in a professional setting can considerably elucidate the factors that may prevent women from integrating into these professional cultures.

Teamwork is an ever-present component of the engineering work environment, and thus, to succeed in the work force, engineers must be equipped with the necessary interaction skills to achieve a productive group dynamic. To this end, the Faculty of Engineering at The University of Manitoba offers a technical communications course aimed at developing such skills. A large component of the course is devoted to a team research project, in which the students work in groups to prepare a final document with their research findings.

The technical communication course presents an excellent setting in which to study the dynamics of teamwork, and the effects of gender on the interpersonal interactions within the team. The study, reported in *Gender and Collaboration*, specifically examines three groups of engineering students as they undertake the course's research project. The gender composition of these three teams is as follows. Two of the teams consist of three men and only one woman, and one of the teams consists entirely of women.

The methods by which the inner workings these three teams were studied is through observation, interviews, and document analysis. The teams were each supplied with a tape recorder so that the researcher documented all of the team meetings. Furthermore, visual observations of body language were done in class by the researcher, seated at some distance from the working groups. The interviews with the students were done both with individual students and with the team, as a whole. The individual interviews provided the researcher with background information on each of the research participants. The documents that the researcher was able to analyze were the class assignments that the teams submitted. The analysis of the final document submitted by the team provided a definitive evaluation on the success of the team effort.

Gender and Collaboration provides excellent insight into what produces a positive and productive work dynamic within a team. Namely, the process can be divided into three aspects: interaction, decision-making, and responsibility. The quality of the interaction can be characterized by the structure and regularity of the meetings. Furthermore, the interaction in a functional team should include procedural (planning), structural (technical), writing, and social talk. It was found that, due to lack of organization and lack of focus, procedural talk and social talk dominated the meetings in the dysfunctional groups. Conversely, in a successful team effort, a significant portion of the interaction should be devoted to structural talk, in which the ideas for the work are developed, and writing talk, in which the team members edit each other's work. The decision-making in a healthy team dynamic should be efficient and democratic. An effective team should also divide the responsibilities equally among all members.

Of the three groups studied, one group exemplified the workings of a successful team effort, while the other two fell into dysfunctional patterns. The leadership style of the successful team's leader, "Todd," was of particular interest. Aside from his excellent organizational skills, the trait that was key to his effectiveness as a leader was his concern and empathy for the other team members. This trait was essential in uniting the team and motivating them towards their shared goal. Furthermore, his particular leadership style enabled the team to reach all decisions by consensus. It is interesting to note that these traits are typically characterized as "feminine," and they are not traditionally associated with the making of a strong leader.

The gender composition of each of the two dysfunctional groups in the study was very different. One of these groups consisted only of women, while the other consisted of mostly men. In general, the two dysfunctional groups displayed very similar behavioural patterns and lack of organization. In particular, the group consisting of only women was characterized by conflict and miscommunication. This finding gives little evidence to the commonly held belief that women

have a unique communication style characterized by nurturing, empathy, and a focus on group harmony.

Insights into inter-gender interactions were gained from the analysis of the behaviour of the lone women in each of the two male-dominated groups. In these observations, there was clear evidence that women in male-dominated groups experienced the “culture of engineering” and exhibited behaviour characteristic of their gender roles. In one of the dysfunctional groups, “Carol” was the only responsible and competent team member, but she was also the only woman on the team. Instead of complaining to the professor about her teammates, who did very little work and indulged in sexist humour, she was instead overly accommodating. She was almost apologetic when attempting to get the rest of the team on track, and when it was obvious that they weren’t going to do their work, she ended up taking on their share of the workload, in order to avoid any conflicts. The other lone woman in a male-dominated group was “Melissa,” who was chronically plagued with self-doubt and very low self-confidence, despite the fact that she was academically stronger than most of her fellow team members.

It is worth noting that some systematic error in this study probably arises from the fact that students were aware that this was a gender study. It was mentioned that the male students would turn off the tape recorder when indulging in sexist and demeaning jokes about women, and it is likely that the full scope of their behaviour was restrained under observation. Perhaps students should have been told it was a general study of interaction and teamwork.

Unfortunately, *Gender and Collaboration* did not include a study of a team consisting solely of men. This would have provided for an interesting comparison with the all-female team, and it would have addressed the question of how the presence of a woman changes the interaction dynamics among men.

The quality of the research in *Gender and Collaboration* is high, as it is rigorous. The writing style is clear and concise. The book opens

the door to many other exciting research possibilities, and fellow researchers will certainly find it valuable. In addition to the insight on the effects of gender on professional interpersonal interactions, *Gender and Collaboration* also includes a very good analysis of the general requirements for successful teamwork. Perhaps engineering students can benefit from this book's detailed description of effective collaboration skills, and in addition, the book can alert students to gender issues. The book is also certainly useful for instructors, as it contains specific recommendations on how to encourage effective teamwork, and how to ensure the inclusion of women.



Donald, J.G. (2002). *Learning to Think: Disciplinary Perspectives*. San Francisco, CA: Jossey Bass. Pages: 330. Price: \$35.00 USD (cloth).

Reviewed by Perry Klein, The University of Western Ontario.

Janet Gail Donald's impressive book synthesizes the results of an extensive research project spanning more than twenty-five years and many university disciplines. Donald conducted the research as a member and director of the Centre for University Teaching and Learning at McGill University. *Learning to Think* focuses primarily on the disciplines of physics, engineering, psychology, law, education, English literature, chemistry, and biology. It addresses three overarching questions: What kind of learning environment does each discipline provide? What knowledge and higher order thinking processes are important for students to learn? And, what are the optimal ways of cultivating these thinking processes? To answer these questions, Donald and her assistants carried out several cycles of research. Each cycle included multiple methods for collecting and analyzing data, such as participant classroom