

Engineering in the Service of Women and by Women*

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Summary A survey of Canadian engineering students, academics and professionals seeks to uncover their perceptions of the role women play in engineering and the possibilities for women's greater involvement, in particular in developing technology that serves women's interests.

1. Relevance

Engineering has long been an area of study and a career reserved for men. Presently, university programs in engineering barely surpass 20% enrolment of women, yet some areas such as biomedical engineering regularly attract equitable student bodies. The inventions created by women in engineering in the 20th century account for under 2%. New technologies often do not take into account diversity of the end-users. Innovation in the 21st century requires diversity and, as such, educational institutions need to reformulate how they present engineering to prospective students.

2. Aims & Objectives

This pan-Canadian study will seek to investigate the following questions:

- 1) How do women and men understand the notion of engineering?
- 2) What importance do women and men place on women's contributions to engineering and the role women engineers play in technological research addressing women's interests?
- 3) What obstacles do women engineers face when investing time and work into questions concerning women and what motivates them towards these questions?
- 4) What concrete suggestions can we make to encourage women engineers to innovate on questions that relate to women's interests?

3. Methods

We have conducted pilot surveys on the university campus and now seek to broaden the study across the country. The study will be carried out in three steps: 1) semi-structured preliminary interviews will allow participants to elaborate on their views on engineering and the contribution of women to engineering; 2) a questionnaire will be distributed broadly upon refinement based on the results of the preliminary interviews; 3) and finally, more detailed consolidation interviews will allow participants to elaborate further on their responses or add other aspects that may have been left out in the questionnaire.

4. Results

Preliminary results gathered from University of Ottawa undergraduates indicate that both sexes correctly identify engineering as a problem-solving profession that serves society. They see engineering as an objective field and so, whether a man or a woman does the work does not matter, yet some admit that both sexes have different perspectives to offer. Some of the male interviewees admitted they'd be less interested in working on engineering projects serving women, while other students thought more women should be involved. They did recognize obstacles to women's full participation in engineering and suggest more outreach to girls, associations promoting the visibility of women in engineering, and research funding for engineering in the service of women to mitigate these.

5. Conclusions

We believe awareness and consciousness-raising can contribute to the empowerment of women in engineering and the development of new opportunities for engineering to serve women's interests.

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