

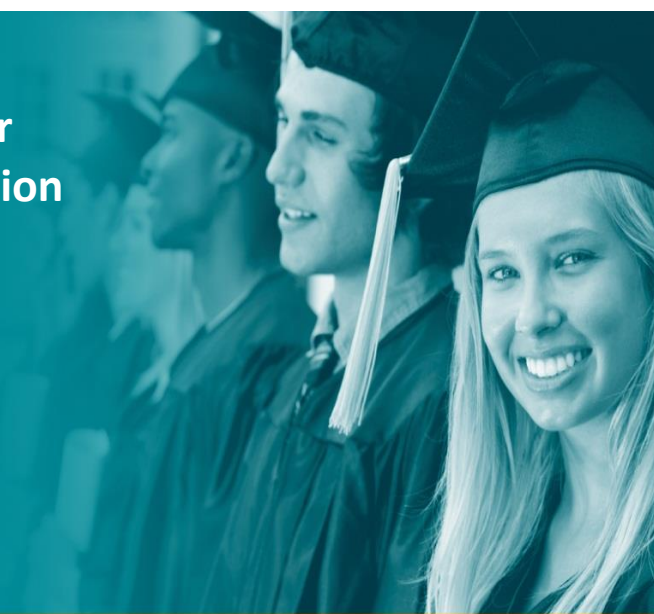


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Closing the Design Loop in First-year Engineering: Modelling and Simulation for Iterative Design – Appendix

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Published by

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Cite this publication in the following format:

Doyle, T. E., Booth, J.-M. J., & Musson, D. M. (2015). *Closing the Design Loop in First-year Engineering: Modelling and Simulation for Iterative Design – Appendix*. Toronto: Higher Education Quality Council of Ontario.



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Appendix 1: Engineering Design Self-Efficacy Scale

As part of this study, a new self-efficacy scale was developed for use by students in Engineering Design & Graphics at McMaster University. A Likert-style response scale was chosen for the questions and ranged from 0 to 10, with 0 being 'I strongly disagree,' 5 being 'I am impartial or do not care' and 10 being 'I strongly agree.' The complete 10-item instrument is given here.

1. I have sufficient computer skills to create a visual model of any design.
2. I am confident I can deal with any problems I encounter during a design project.
3. Knowing that a project has been successfully completed by others makes me believe I am capable of completing the same project.
4. If I am on the right team, I can accomplish anything.
5. Encouragement from my professor, teaching assistant (TA) or instructional assistant intern (IAI) is important to my ability to complete a project.
6. In general, I often seek the advice of friends (non-team members) when completing a project.
7. Being interested in a course is important to my success in course projects.
8. I am more likely to succeed in a course project if I already have a good mark in the course.
9. I want to succeed, so I will succeed.
10. The desire to better myself is a strong motivation in course work and projects.



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