

EDUCATION

- 2014 Credentialed Evaluator, Canadian Evaluation Society
- 2004–2009 Doctor of Philosophy (Measurement, Assessment, & Program Evaluation), Queen's University
- 2002–2004 Master of Education (Measurement, Assessment, & Program Evaluation), Queen's University
- 1986–1987 Bachelor of Education (Computer Science/Mathematics), University of Toronto
- 1982–1986 Bachelor of Science (Computer Science), York University

EMPLOYMENT HISTORY

- 2021 – pres. Professor, University of Prince Edward Island
- 2021 – 2022 Dean (Interim), Faculty of Education, UPEI (August 1, 2021 – July 31, 2022)
- 2017–2021 Graduate Coordinator, Faculty of Education, UPEI (started January, 2017)
March 15 – 19, 2021 Acting Dean
- 2016 Visiting Professor, Massey University, New Zealand (February 8–March 11)
- 2014–2021 Associate Professor, University of Prince Edward Island (July 1, 2014)
- 2011 Coordinator (Interim), Bachelor of Education Program, Kindergarten Cohort
- 2008–2014 Assistant Professor, University of Prince Edward Island
- 2005–2008 Teaching Fellow (Classroom Assessment), Queen's University
- 2003–2008 Research Assistant, Queen's University
- 2003 Teaching Assistant, Queen's University
- 1992–2002 Teacher/Department Head (Mathematics/Computer Science), Durham District School Board
- 1991–1993 Teacher (Mathematics/Computer Studies), Chinese/Canadian International School
- 1987–1991 Teacher (Business Studies/Computer Science), Durham District School Board

SCHOLARLY ENDEAVOURS

Articles in Progress

Miller, T., Yanky, A., & Xu, H. (2023). Teachers' perceptions of excluding students from large-scale assessments. Manuscript is in the final draft stage.

Articles in Scholarly Refereed Journals

- (R) Brewster, B. J., & Miller, T. (2023). *Women's Mathematics Anxiety: A mixed methods case study*. *International Journal of Lifelong Education*. <https://doi.org/10.1080/02601370.2023.2271670>
- (R) Brewster, B. J., **Miller, T.** (2023). Reflections on mathematics ability, anxiety, and interventions. *International Journal of Mathematics Education*, 18(2). <https://doi.org/10.29333/iejme/12822>
- (R) Brewster, B. J., **Miller, T.** (2022). Expressive writing intervention for pre-service teachers' mathematics anxiety. *International Electronic Journal of Mathematics Education*, 17(4). <https://doi.org/10.29333/iejme/12298>

- (R) **Miller, T.**, FitzGerald, A. M., & Xu, H. (2022). The practice of excluding students from large-scale assessments: Interviews with principals. *Alberta Journal of Educational Research*, 68(2), 1-20. <https://doi.org/10.11575/ajer.v68i2.70880>
- (R) **Miller, T.**, & Yan, Y. (2022). Factors influencing the accuracy of Canada's large-scale assessment data: Policies and practices of exclusion, absenteeism, and social promotion. *Educational Assessment, Evaluation, and Accountability*. <https://link.springer.com/article/10.1007/s11092-022-09381-3>
- (R) Xu, H., & **Miller, T.** (2021). International recruitment in Canadian higher education: Factors influencing students' perceptions and experiences with education agents. *Comparative and International Education*, 49(2). <https://doi.org/10.5206/cieeci.v50i1.14132>
- (R) **Miller, T.**, MacLaren, K., & Xu, H. (2020). Online learning: Practices, perceptions, and technology. *Canadian Journal of Learning and Technology*, 46(1). <https://doi.org/10.21432/cjlt27894>
- (R) Brewster, B., & **Miller, T.**, (2020). Missed Opportunity in Mathematics Anxiety. *International Electronic Journal of Mathematics Education*, 15(3). <https://doi.org/10.29333/iejme/8405>
- (R) Snow, K., **Miller, T.**, & O'Gorman, M. (2020). Culturally responsive assessment practices. *Diaspora, Indigenous, and Minority Education*. (International peer-reviewed journal) <https://doi.org/10.1080/15595692.2020.1786366>
- (R) Lahey, R., Chaytor, K., MacDonald, W., **Miller, T.** (2020). Evaluation in the provinces and territories: A cross Canada snapshot and call to action. *Canadian Journal of Program Evaluation*. 35(1). <https://journalhosting.ucalgary.ca/index.php/cjpe/article/view/61624>
- (R) **Miller, T.** (2018). Developing numeracy skills using interactive technology in a play-based learning environment. *International Journal of STEM Education*, 5(1), 1–11. <https://doi.org/10.1186/s40594-018-0135-2>
- (R) **Miller, T.** (2018). Measures of Indigenous achievement in Canada. *Diaspora, Indigenous, and Minority Education*, 12(4), 182–200. (International peer-reviewed journal) <https://www.tandfonline.com/doi/abs/10.1080/15595692.2018.1506436>
- (R) MacPhee, M., Turnbull, M., Cormier, M., & **Miller, T.** (2017). The experience of non-Francophone parents in a French minority-language school. *Canadian Journal of Applied Linguistics*, 20(1), 115–134. <https://journals.lib.unb.ca/index.php/CJAL/article/view/24351/29955>
- (R) McRoberts, T. J., & **Miller, T.** (2015). Instrument development for examining student attrition. *Journal of Administration in Higher Education*, 11(2), 43–53. (International peer-reviewed journal) <https://files.eric.ed.gov/fulltext/EJ1139205.pdf>
- (R) Garland, L. M., & **Miller, T.** (2015). Factors influencing evidence-based practice for community nurses. *British Journal of Community Nursing*, 20(5), 233–242. doi:10.12968/bjcn.2015.20.5.233 (International peer-reviewed journal) <https://www.ncbi.nlm.nih.gov/pubmed/25993372>
- (R) **Miller, T.** (2014). The quality of our education system impacts our labour force today into the future. *Chamber Business Magazine*, Iss. Summer, pp.13–14.
- (R) **Miller, T.** (2013). Using large-scale assessment results to determine student grades. *Canadian Journal of Education*, 36(3), 317–353. (National peer-reviewed journal) <http://journals.sfu.ca/cje/index.php/cje-rce/article/view/939/1609>

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- (R) Dawson, S., **Miller, T.**, Goddard, S., & Maag-Miller, L. (2013). Impact of outcomes-based assessment on student learning and faculty instructional practices. *Journal of Veterinary Medical Education*, 40(2), 128–138. doi:10.3138/jvme.1112-100R (International peer-reviewed journal)
- (R) **Miller, T.**, Chahine, S., & Childs, R. (2010). Detecting differential item functioning and differential step functioning due to differences that should matter. *Practical Assessment, Research, and Evaluation*, 15(10), 1–13. <https://pareonline.net/getvn.asp?v=15&n=10> (Online journal with an average of well over 10,000 downloads for every article)
- (R) **Miller, T.** (2009). Formative computer-based assessment in higher education. *Assessment and Evaluation in Higher Education*, 34(2), 181–192. (International peer-reviewed journal) <https://www.tandfonline.com/doi/abs/10.1080/02602930801956075>
- (R) Klinger, D., DeLuca, C., & **Miller, T.** (2008). The evolving culture of large-scale assessments in Canadian education. *Canadian Journal of Educational Administration and Policy*, 76, 1–34. (National peer-reviewed online journal) <https://cjc-rcc.ucalgary.ca/index.php/cjeap/article/view/42757>
- (R) **Miller, T.**, Klinger, D., & Shulha, L. (2006, April). Behaviour assessment in Ontario mathematics classrooms: Learning skills. *Educational Research and Review*, pp. 1–6. <https://eric.ed.gov/?id=EJ903171>

Refereed Books (Co-Author, with authors listed in alphabetical order)

- (R) Dearling, C., Erdman, W., McCudden, B., Meisel, R., **Miller, T.**, & Speijer, J. (2003). *Mathematics: Applying the concepts 9*. Whitby, ON: McGraw Hill Ryerson. (Author for Chapters 4, 5, and co-author for Chapter 7)
- (R) Brosseau, J., Byers, P., Erdman, W., McCudden, B., Mehler, K., **Miller, T.**, Perivolaris, L., & Saarimaki, P. (2002). *Mathematics: Preparing for college and apprenticeship 12*. Whitby, ON: McGraw Hill Ryerson. (Author for Chapter 2)
- (R) Brosseau, J., Erdman, W., Irvine, J., McCudden, B., Mehler, K., **Miller, T.**, Perivolaris, L., & Saarimaki, P. (2001). *Mathematics: Making financial decisions 11*. Whitby, ON: McGraw Hill Ryerson. (Author for career profiles preceding each Chapter and for Chapter 10)
- (R) Erdman, W., Fawcett, G., Lim, L., Vincent, L., Love, B., **Miller, T.**, & Zolis, P. (2000). *Mathematics: Applying the concepts 10*. Whitby, ON: McGraw Hill Ryerson. (Author for Chapter 4)

Books (Consultant/Advisor)

- (R) Fournier, N., MacDonald, D., McIlreith, J., McKillop, D., Speijer, J., & Szeto, S. (2008). *Mathematics 8*, Halifax, NS: McGraw Hill Ryerson. (Assessment and Pedagogy Consultant: **Miller, T.**) (Co-wrote the assessment model for the program; co-wrote assessment tools and investigations for the student texts; co-wrote assessment support tools for the teachers' resource for all tools written such as rubrics, what to expect from students, and other support deemed necessary; advised on the pedagogical development of Chapters 1, 2, 4, 5, 7, 8, & 10).
- (R) Calabrese, B., Fournier, N., & Speijer, J. (2007). *Mathematics 7*. Halifax, NS: McGraw Hill Ryerson. (Assessment Consultant: **Miller, T.**).
- (R) Canton, B., Dearling, C., Erdman, W., McCudden, B., McLearn, F., Meisel, R., & Speijer, J. (2007). *Principles of Mathematics 10*. Whitby, ON: McGraw Hill Ryerson. (Advisor: **Miller, T.**).
- (R) Ainslie, E., Forsythe, T., Fuller, J., Gilfoy, D., & Speijer, J. (2006). *Mathematics 10*. Whitby, ON: McGraw Hill Ryerson. (Advisor: **Miller, T.**).

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- (R) Ainslie, E., Forsythe, T., Fuller, J. Gilfoy, D., & Speijer, J. (2005). *Mathematics 9, Focus on Understanding*. Whitby, ON: McGraw Hill Ryerson. (Advisor: **Miller, T.**)
- (R) Erdman, W., Gilfoy, D., Lax, S., Ryan, K., Speijer, J., Szeto, S., & Webb, M. (2004). *Mathematics 8, Making Connections*. Whitby, ON: McGraw Hill Ryerson. (Advisor: **Miller, T.**)
- (R) Erdman, W., Gilfoy, D., Lax, S., Ryan, K., Speijer, J., Szeto, S., & Webb, M. (2004). *Mathematics 7, Making Connections*. Whitby, ON: McGraw Hill Ryerson. (Advisor: **Miller, T.**)

Dissertation

- (R) **Miller, T.** (2009). Formative computer-based assessments: The potentials and pitfalls of two formative computer-based assessments used in professional learning programs. *Dissertation Abstracts International*. 70, 4, AATNR48227. [9780494482278]

Thesis

- (R) **Miller, T.** (2004). *Assessment practices in Grade 9 academic and applied stream mathematics*. (Unpublished master's thesis). Queen's University, Kingston, ON, Canada.

Articles Published in Newspaper

- Miller, T.** (2020, June 23). Innovation needed for lost school time. *The Guardian*, A10.
- Miller, T.** (2017, January 14). Pisa Results: A real improvement? *The Guardian*, A7.
- Miller, T.** (2015, April, 22). Dropping assessments a mistake. *The Guardian*, A9.

Articles Published in Newsletters

- Miller, T.** (2017, December 5). Professor launches free math videos. *National Council of Teachers of Mathematics, Math education smart brief*. <https://www.cbc.ca/news/canada/prince-edward-island/pei-math-videos-education-upei-tess-miller-1.4432315>
- Klinger, D., Rogers, W. T., **Miller, T.**, & DeLuca, C. (2008, October). Large-scale assessments in Canada. *NCME Newsletter*, 9–14.

Technical Reports

- Miller, T., & Huayamave, P.** (2022). *Girls Get Math*.
Description: The purpose of this was to examine the impact of a lunch time math program designed to improve girls awareness of mathematics and career options in mathematics.
- Miller, T.** (2017). *Measurement of Indigenous Achievement: An examination of how achievement was measured and what it tells us about student persistence and success*. ArcticNet.
Description: The purpose of this literature review is twofold. First, it provides an overview of literature of assessments and corresponding outcomes previously used to measure achievement of Indigenous children. Second, it synthesizes recent documents reporting on student achievement. The outcome of this examination of literature provides insight into how achievement was measured in the past and transition towards culturally responsive assessment for the future. (45 pages).
- Miller, T.** (2014). *Atlantic Veterinary College admissions evaluation*. Charlottetown, PE: University of Prince Edward Island.

Description: The purpose of this program evaluation was to examine relationships between entrance variables used to determine acceptance into the AVC and variables representing student success within the program. Entrance variables included 7 primary variables: admissions score, average of prerequisite courses, biology average, GRE percentile (composite of 3 measures: verbal reasoning, quantitative reasoning, analytical writing), interview score, animal experience score, and extra-curricular activities score. (55 pages)

Miller, T. (2010). *Grade 9 assessment of Mathematics in PEI from 2007 to 2010*. Summerside, PE: Department of Education and Early Childhood Development.

Description: This evaluation examined the instrument used to assess Grade 9 Mathematics and student results over the past 3 years to explore where students were experiencing difficulty. An item analysis was used to, first, examine the large-scale assessment for poor performing items and, second, to identify curricular areas that PEI students have demonstrated an improvement or experienced difficulty with over the three-year period of implementation. (25 pages)

Miller, T. (2010). *Student Opinion of Teaching Survey: 5th year review of the questionnaire*. Charlottetown, PE: University of Prince Edward Island.

Description: The purpose of this technical report was to document the process the Questions Committee applied in their mandate to review the *Student Opinion of Teaching Survey*. This report was organized according to the four criteria stipulated in the Red Book: (a) review the current questionnaire, and make such revisions to the seven University-wide questions as it deems necessary which are in agreement with the provisions of this Agreement; (b) give each Department, Faculty or School an opportunity to propose revisions to its additional questions; (c) consider submissions from Departments, Faculties, or Schools regarding alternative forms of evaluation in cases other than clinical rotations, where the Faculty Member teachers less than one-third (1/3) of the total hours in the course as per Article E1.3.1f; (d) consider submissions from Departments, Faculties, or Schools regarding modifications to the procedures in E1.3.1 e), g) and h) above for electronic surveys or regular courses, courses delivered via the web, by correspondence, etc. (Red Book, E1.3.2, p. 61). Final section (e) was included that focused on recommendations from the Questions Committee. (76 pages)

Miller, T. (2009). *Impact of PEI's provincial assessment working committee experience on teachers' professional development*. Summerside, PE: Department of Education and Early Childhood Development.

Description: The purpose of this study was to explore the impact of teachers' experience with the provincial assessments on their teaching practices. This study was presented a technical report for the Department of Education. (22 pages)

Creative Scholarly Endeavours

Miller, T. (2020, July 15). Zero Pairs. <https://www.tessmiller.ca/whole-numbers-zero-pairs-help-with-negative-numbers>

Miller, T. (2020, July 15). Whole Numbers: 3 Ways to Multiply. <https://www.tessmiller.ca/multiplication-video-3-3-ways-to-multiply>

Miller, T. (2020, July 15). Decimals: Addition. <https://www.tessmiller.ca/decimals-4-addition>

Miller, T. (2020, July 15). Decimals: Division involving remainders. <https://www.tessmiller.ca/decimals-3-division-involving-remainders>

Runge, M., & **Miller, T.** (2020, May 8). Binomial Multiplication. <https://www.tessmiller.ca/binomial-multiplication>

Campbell, B., & **Miller, T.** (2020, May 8). Addition with Regrouping. <https://www.tessmiller.ca/whole-numbers-addition-with-regrouping>

Miller, T. (2017 April 9). *Fractions: Making the connection*. <https://www.tessmiller.ca/fractions-making-the-connection>

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- Miller, T. (2017, April 25). *Equivalent fractions*.
<https://www.tessmiller.ca/equivalentfractions>
- Miller, T. (2017, April 17). *Adding fractions with common denominators*.
<https://www.tessmiller.ca/adding-fractions-common-denominators>
- Miller, T. (2017, December 5). *Adding fractions with different denominators*.
<https://www.tessmiller.ca/adding-fractions-different-denominators>
- Miller, T. (2017, November 22). *Multiplying a fraction by a whole number*.
<https://www.tessmiller.ca/multiplying-fractions>
- Miller, T. (2017, December 13). *Whole numbers: Multiplication as think addition*.
<https://www.tessmiller.ca/multiplication-video1-using-base-10-pieces>
- Miller, T. (2017, December 17). *Whole numbers: Multiplying 1- and 2-digits using base 10*.
<https://www.tessmiller.ca/introduction-to-multiplication-using-base-10-pieces>
- Miller, T., Kresin, A., & Mackenzie, D. (2017, November 30). *Whole numbers: 2 ways to divide*.
<https://www.tessmiller.ca/https/vimeocom/243720184>
- Miller, T. (2017, June 15). *Introduction to the Size of decimal*.
<https://www.tessmiller.ca/https://vimeo.com/246001295>
- Miller, T. (2018, February 18). *Division of decimals*. <https://www.tessmiller.ca/decimals-video-2>

Provincial Keynote Address: **Invited**

- Miller, T. (2013, May). *Canada's large-scale assessment program: What's it worth?* Presented at the Ontario Association for Mathematics Educators, Sheridan College, Toronto, ON.

Provincial Keynote Address

- Miller, T. (2014, January). *State of mathematics address*. Presented to the PEI community. Charlottetown, PE.

Description: Findings from the PISA report and PEI's Common Assessment were drawn together to examine the impact of low mathematics achievement in the province. These statistical findings were contrasted with interviews from Faculty, Teachers, and a representative from the Bio-Technology sector. This open presentation attracted over 200 participants representing the full range of stakeholders: government, school boards, teachers, parents, business leaders, and politicians.

Invited International Presentation

- (R) Miller, T. (2011, April). *Large-scale assessment results and final grades: The ten percent rule and other teacher practices*. **Invited** symposium (Teachers' use of large-scale assessment as part of students' grades: A Pan-Canadian perspective) conducted at the annual meeting of the American Educational Researchers Association, New Orleans, LA.

Invited National Presentation

- Miller, T.** (2022, January). Advancing Assessment and Evaluation to Promote Equity and Fairness. **Invited** session (Exclusion Rates on Large-scale Assessments and Inclusion Practices in Public Schools).
Advancing Assessment and Evaluation Conference sponsored by the Assessment and Evaluation Group, Queen's University and Educational Testing Services.
- (R) **Miller, T.** (2020, June). *The practice of excluding students from large-scale assessments – interviews with principals.* **Invited** session (Teachers' use of large-scale assessment as part of students' grades: A Pan-Canadian perspective) conducted at the annual meeting of the Canadian Society for Studies in Education, Waterloo, ON. (conference cancelled due to COVID-19)

Invited Provincial Presentations/Workshops

- Miller, T.** (2019, October). *Introduction to program evaluation.* Four, half-day workshops for Workplace PEI.
- Miller, T.** (2019, February). *Introduction to program evaluation.* Two-day workshop for professionals. UPEI's Continuing Education/Professional Development
- Miller, T.** (2018, June). *Logic models and matrices.* One-day workshop for the Department of Agriculture & Fisheries.
- Miller, T., Bennett, P., & Jadis, A.** (2018, February). *Let's talk K–12 education: A conversation challenging the status quo of P.E.I.'s education system.*
Description: Panel discussion organized by the PEI Chamber of Commerce to address issues with PEI's education system.
- Miller, T.** (2018, February). Teaching using instructional videos, inquiry-based learning, and fraction strips. UQikiqtani Regional Teachers' Conference. Presentation to mathematics teachers in the north and central Qikiqtani region of Nunavut., Iqaluit, Nunavut
Description: Presented four workshops on Multiplication/Division, Fractions, Decimals, and Classroom Assessment.
- Miller, T.** (2017, February). *Essential skills series.* Canadian Evaluation Society. Charlottetown, PE.
Description: Three-day workshop offered by the PEI Chapter of the Canadian Evaluation Society for provincial government employees.
- Miller, T.** (2015, November). *Essential skills series.* Canadian Evaluation Society. Charlottetown, PE.
Description: 3-day workshop offered by the PEI Chapter of the Canadian Evaluation Society for provincial government employees.
- Miller, T.** (2011, June). *Program evaluation standards workshop.* Canadian Evaluation Society. Charlottetown, PE. (Presenter).
Description: This workshop introduced participants ($n=15$) from all employment sectors (i.e., private consultants, PEI Department of Tourism, PEI Department of Education, Veteran's Affairs) to a new resource for evaluators, *The Program Evaluation Standards, 3rd ed.* (2010). This resource is a guide for quality decision-making when (a) designing and implementing the inquiry, (b) making dependable decisions about a program's merit, worth, or significance, and (c) communicating information and reporting findings. Participants had the opportunity to explore the complexity of evaluation practice and gain hands on experience in applying The Program Evaluation Standards in full-day workshop.
- Miller, T.** (2010, April). *Essential skills workshop.* Canadian Evaluation Society. Charlottetown, PE. (Presenter).

Description: The essential skills series consisted of a four-module workshop delivered over three intensive days. The workshop was designed to enhance program evaluation skills and promote the professional practice of evaluation across Canada. Twelve participants from Atlantic Canada (PEI, NS, NB) representing public and private sectors attended the workshop.

Conference Presentations: International

- (R) **Miller, T.** (2019, April). *Influence of social promotion on exclusion rates on large-scale assessments*. Paper presented at the annual meeting of the American Educational Researcher Association, Toronto, ON.
- (R) **Miller, T.** (2016, December). *Promising practices in the assessment of language, literacy, and numeracy in Inuit communities*. Presentation at the ArcticNet Conference, Winnipeg, MB.
- Miller, T.** (2016). *Explain everything—Using iPads as teaching, learning, and assessment tools*. Paper presented at Massey University, Palmerston North, New Zealand.
- (R) Dawson, S., & **Miller, T.** (2014, June). *Providing effective feedback with rubrics*. Paper presented at the American Association of Veterinary Medicine Conference, Iowa City, IA.
- (R) **Miller, T.**, & Dawson, S. (2014, June). *Rubrics and rating scales to enhance student engagement*. Presentation at the Society for Teaching and Learning, Kingston, ON.
- (R) Dawson, S., & **Miller, T.** (2014, March). *Rating scales in clinical rotations: Why words are important*. Poster presentation at the Association for Veterinary Medicine Conference, Alexandria, VA.
- (R) Dawson, S., & **Miller, T.** (2013, March). *Using ePortfolios to promote student engagement with outcomes-based assessment*. Paper presented at the Association for Veterinary Medicine Conference, Alexandria, VA.
- Miller, T.** (2010, October). *Formative computer-based assessments: Potentials and pitfalls of items*. Paper presented at the EDGE, St. John's, NL.
- (R) **Miller, T.** & Shulha, L. M. (2008, April). *Formative computer-based assessment in higher education*. In K. McFerrin et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference*, (pp. 105–111). Chesapeake, VA: AACE.
- (R) **Miller, T.**, & Shulha, L. (2007, November). *Formative computer-based assessment in higher education: Evaluation of an e-learning instrument*. Paper presented at the American Evaluation Association, Baltimore, MD.

Conference Presentations: National

- (R) Blake, E., & **Miller, T.** (2023, May). *Examining the impact of pre-service teachers' perceptions of inclusive education*. Paper presented at the annual meeting of the Canadian Society for Studies in Education, Toronto, ON.
- (R) Blake, E. A., Gauthier, R., & **Miller, T.**, (2022, June). *Initiatives to promote French community*. Paper accepted for presentation at the annual meeting of the Canadian Society for Studies in Education, Online.
- (R) **Miller, T.**, & Xu, H. (2021). *Principals' views on excluding students from large-scale assessments*. Paper presentation at the annual meeting of the Canadian Society for Studies in Education, University of Alberta, AB.

- (R) FitzGerald, A. M., & **Miller, T.**, Thorne, C., & Clark, A. (2020, June). International students' satisfaction with education agents. Paper presented at the annual meeting of the Canadian Society for Studies in Education, Western, ON. (Conference cancelled due to COVID-19)
- (R) Xu, H., & **Miller, T.** (2020, June). International students' satisfaction with education agents. Paper presented at the annual meeting of the Canadian Society for Studies in Education, Western, ON. (Conference cancelled due to COVID-19)
- (R) **Miller, T.**, McLaren, K., & Han, X. (2019, June). *Online learning: What does good online teaching and learning look like*. Paper presented at the annual meeting of the Canadian Society for Studies in Education, Vancouver, BC.
- (R) Yan, Y., & **Miller, T.** (2016, May). *The evolving culture of large-scale assessment on Prince Edward Island*. Paper presented at the annual meeting of the Canadian Society for Studies in Education, Calgary, AB.
- (R) Poth, C., **Miller, T.**, & Daniels, L., & Wagner, A. (2013, June). *Do students choose formative opportunities?* Paper presented at the annual meeting of the Canadian Society for Studies in Education, Victoria, BC.
- (R) Turnbull, M., MacPhee, M., & **Miller, T.** (2013, June). *L'expérience, l'engagement et les croyances des parents non-francophones qui ont choisi une école française pour leurs enfants*. Paper presented at the annual meeting of the Canadian Society for Studies in Education, Victoria, BC.
- (R) **Miller, T.**, & Dawson, S. (2013, June). *e-Portfolios without Grades: A focus on student engagement*. Paper presented at the Society for Teaching and Learning in Higher Education, Cape Breton, NS.
- (R) **Miller, T.**, Poth, C., & Daniels, L. (2012, May). *An experiential approach to learning about assessment theory and practice: An experimental study*. Paper presented at the annual meeting of the Canadian Society for the Study in Education, Waterloo, ON.
- (R) **Miller, T.** (2011, May). *Consequential validity and PEI's large-scale assessment of Grade 9 mathematics*. Symposium conducted at the meeting of the annual meeting of the Canadian Society for the Study in Education, Fredericton, NB.
- (R) **Miller, T.** (2010, May). *Provincial assessment in Prince Edward Island: Three years of Grade 9 mathematics assessment*. Paper presented at the annual meeting of the Canadian Society for the Study in Education, Montreal, QC.
- (R) **Miller, T.**, & Chahine, S. (2009, May). *Teachers' instructional practices and students' opportunity to learn: Differential item functioning in the Grade 9 assessment of mathematics*. Paper presented at the annual meeting of the Canadian Society for the Study in Education, Vancouver, BC.
- (R) Klinger, D. A., Rogers, W. T., & **Miller, T.**, (2008, June). *Elementary teachers' perceptions regarding the purposes and issues of provincial testing in Ontario*. Paper presented at the annual meeting of the Canadian Society for the Study of Education, Vancouver, Canada.
- (R) **Miller, T.** (2007, April). Large-scale assessment in Canada: The provincial perspectives. Phase II. Symposium, University of Ottawa, Ottawa, ON.
- (R) **Miller, T.**, & Klinger, D. A. (2007, June). *The current assessment culture in Canadian education*: Paper presented at the Large-scale Assessments of Achievement and the Issue of Official Languages Conference, Ottawa, ON.

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- (R) Miller, T. (2006, May). *Learning skills: Behaviour assessment in Ontario schools*. Paper presented at the annual meeting of the Canadian Society for the Study of Education, North York, ON.
- (R) Miller, T., Klinger, D. A., & Shulha, L. A. (2006, May). *Behaviour assessment in Ontario mathematics classrooms*. Paper presented at the annual meeting of the Canadian Society for the Study of Education, Toronto, ON, Canada.
- (R) Miller, T. (2005, May). *Assessment practices in Grade 9 academic and applied stream mathematics*. Paper presented at the annual meeting of the Canadian Society for the Study of Education, Waterloo, ON.
- (R) Miller, T., & DeLuca, C. (2005, May). *Large-scale assessment in Canada: The provincial perspectives. Phase I*. Paper presented at the annual meeting of the Canadian Society for the Study in Education, Waterloo, ON.
- (R) Miller, T. (2003, May). *Instrumentation: The challenges of developing a valid and reliable questionnaire*. Paper presented at the annual meeting of the Canadian Society for the Study in Education, Halifax, NS.

Conference Presentations: Provincial

- Miller, T. (2017, May). *Mathematics videos and collaboration*. Ontario Mathematics Association, Kingston, ON.
- Miller, T. (2015, September). *Rich learning tasks for Grades 7 to 9*. Nova Scotia Teachers Federation, Halifax, NS.
- Miller, T. (2004, April). *Assessment practices in Grade 9 academic and applied mathematics program*. Round Table, Kelly Conference, Kingston, ON.

Professional Consultations

- 2022-2023** Health PEI, evaluation specialist
I provided feedback on program evaluation for a new community outreach project.
- 2022-2023** UPEI Medical School – Student Assessment and Program Evaluation Steering Committee
I provided feedback and direction for adopting MUN’s assessment and evaluation program to UPEI.
- 2020** Department of Education and Lifelong Learning, PEI
Description: I was invited to meet with Dr. Tammy Hubbly-Little and Laura Brake to problem solve issues related to their grade 11 provincial mathematics assessment.
- 2019–2022** Workplace Learning, PEI
Description: I provide guidance in the development of an essential skills training program.
- 2018–2022** Veterans Affairs Canada, Business Intelligence Unit
Description: I provided services in the role of a psychometrician on an as need basis.
- 2011–2012** Atlantic Veterinary College
Description: Under the direction of the Associate Dean of Academic and Student Affairs, Dr. Lisa Maag-Miller and later, Dr. Leigh Lamonte, I consulted with their curriculum team on implementing outcomes-based assessment.

Professional Workshop Presentations

- Miller, T., (2019, March). *Effective PPT presentations*. Faculty of Education, University of Prince Edward Island, Charlottetown, PE.
Description: This presentation was given to graduate students. As a follow up activity, I created a competition for students to showcase and recognize their skills in the preparation of effective PPT presentations.

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- Miller, T., & Wiebe, S.** (2018, March). *Academic CVs and other questions to launching your academic career*. Faculty of Education, University of Prince Edward Island, Charlottetown, PE.
Description: This workshop was presented as a panel discussion to highlight pertinent information included in CVs as well as to field other questions graduate students have about starting their careers.
- Miller, T.** (2017, December). *Math made easy*. University of Prince Edward Island, Charlottetown, PE.
Description: The public workshop launched my new website containing a series of instructional mathematics videos designed to provide a foundation in mathematics.
- Miller, T., & Doran, T.** (2015, November). *Using mathematical apps to teacher kindergarten mathematics*. PEI Professional Development Training. Charlottetown, PE.
Description: The purpose of the presentation was to demonstrate how to use mathematical apps on the iPad and how the mathematics in the app is aligned with the PEI curriculum.
- Miller, T.** (2015, April). *Multiplication workshop*. Charlottetown, PE.
Description: The workshop presented the basics of multiplication beginning with drawing pictures to model multiplication. Next, different ways and strategies to multiply were presented. Presentation to parents and teachers.
- Miller, T.** (2015, February). *Decimals workshop*. Charlottetown, PE.
Description: The purpose of the workshop was to explore decimal concepts using pictorial representations—an easy hands-on approach for parents and teachers.
- Miller, T.** (2015, January). *Fractions workshop*. Charlottetown, PE.
Description: The purpose of the workshop was to remove the mystery of fractions by re-introducing fraction concepts in an easy, hands-on approach. The workshop was open to the public.
- Miller, T.** (2011). *Questionnaire design and analysis workshop series*. Presentation for the Canadian Evaluation Society (PEI Chapter) & the University of Prince Edward Island, Charlottetown, PE.
Description: The first workshop introduced participants to theories of questionnaire design. The second two workshops focused on (a) descriptive statistical analysis and (b) inferential questionnaire design. Eight participants from the Canadian Evaluation Society and the University of Prince Edward Island registered for the three workshops.
- Miller, T.** (2007). *Improving provincial assessment results*. Ottawa District School Board, Ottawa, ON.
- Miller, T.** (2005). *Assessment practices in Grade 9 academic and applied stream mathematics*. Ontario Association for Mathematics Educators. Toronto, ON.
- Miller, T.** (2004). *Teaching for success in applied mathematics*. Pine Ridge Math Association, Bowmanville, ON.
- Miller, T.** (2004). *Applied mathematics: What can be done to improve learning and test results?* Ontario Association for Mathematics Educators. Toronto, ON.
- Miller, T.** (2004). *Applied mathematics: Putting theory into practice—Mind the gap!* Toronto Educators' Association for Mathematics. Toronto, ON.
- Miller, T.** (2003). *Teaching applied stream mathematics*. Brock University, Additional Qualifications, Summer Program, St. Catharines, ON. (Invited Speaker).
- Miller, T.** (2003). *Introduction to fathom*. Ontario Association for Mathematics Educators. Toronto, ON. **Miller, T.** (2003). *Teaching for success in Grades 9 & 10 applied mathematics*. Toronto Educators' Association for Mathematics. Toronto, ON.

Conference Organization

2019 09 Dashboard Designs and Great Graphs with Dr. Anne Emery. CES PEI Chapter. Prince Edward Island. *My role:* I was one of two people who organized this 1-day workshop.

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- 2018 11** Performance Evaluation with Steve Montague. CES PEI Chapter. Prince Edward Island. *My role: I was the organizer for this 1-day workshop.*
- 2018 01** Principles-based Evaluation with Michael Quinn Patton. CES PEI Chapter. Prince Edward Island. *My Role: I was one of two people who organized this half-day workshop.*
- 2017 11** Mixed Methods Evaluations with Michael Quinn Patton. CES PEI Chapter. Prince Edward Island. *My Role: I was one of two people who organized this half-day workshop.*
- 2016 08** *Aboriginal education: Truth and Reconciliation.* University of Prince Edward Island, Charlottetown, PE.
My Role: I was the sole organizer of the symposium. *Description:* This symposium was held in honour of retiring faculty, Dr. Fiona Walton. This symposium was a 1-day event attended by 87 participants. The symposium began at 8:30 with the opening ceremony led by Elder, Noel Millea, who led a smudging ceremony. Following the smudging ceremony, Elder Judy Clark sang and played the drum. Next, greetings were offered from the Dean, Ron MacDonald, UPEI Faculty of Education; President of UPEI, Dr. Alaa Abd-El-Aziz; and Premier of PEI, Honourable Wade MacLauchlan. Participants then selected one of two streams that focused on academic research in Aboriginal education or a historical focus on Aboriginal schools. The attached program highlights the focus of each of the sessions.
- 2011 06** *Think-tank on PEI's large-scale assessment.* PEI Department of Education and Early Childhood Development, Summerside, PE. (Organizer and Presenter).
My Role: I was the sole organizer of this 3-day event. *Description:* Canada's leaders in measurement were invited to PEI (following the Canadian Society for Studies in Education conference in Fredericton, NB) to examine PEI's large-scale assessment program and provide directions for future growth. Psychometricians in attendance were: Dr. Todd Rogers (University of Alberta), Dr. Ruth Childs (University of Toronto), Dr. Don Klinger (Queen's University), Dr. Robert Crocker (University of Newfoundland & PISA representative, and myself. Attendees from the Department of Education included Cindy Wood (Assessment and Evaluation Manager) and 5 of her immediate staff. Assisting with the workshop was a UPEI research assistant, Melissa MacLean. A reception and working dinner was held on June 1, 2011. A full-day workshop and presentation dinner followed on the preceding day.

Broadcast Interviews

- Miller, T.** (2022, January). Online learning in PEI schools. Island Morning (Mitch Cormier). CBC Radio.
- Miller, T.** (2019, February). *After-school Math program.* Island Morning (Laura Chapin). CBC Radio.
- Miller, T.** (2019, February). *UPEI math tutoring project draws interest from hundreds of Island students.* <https://www.cbc.ca/news/canada/prince-edward-island/upei-math-tutor-1.5036064>
- Miller, T.** (2019, March). *Hundreds line up for UPEI tutoring program.* Academia, Top Ten. <https://www.academica.ca/topten/20190301>
- Miller, T.** (2018, March 8). *Standardized testing that started over a decade ago still faces stiff criticism.* CBC Compass TV at 6 pm (Kerry Campbell).
- Miller, T.** (2018, February). *Views on large-scale assessment* (Matt Rainey). CBC Radio.
- Miller, T.** (2017, December). *Math made easy.* Island Morning (Matt Rainey). CBC Radio.
- Miller, T.** (2014, July). *Extent of social promotion in PEI.* Island Morning (Laura Chapin). CBC Radio.
- Miller, T.** (2014, January). *Response to PISA scores in PEI.* Island Morning (Matt Rainey). CBC Radio.

Text Interviews

- Miller, T.** (2022, January 23). How teachers in training are learning to make remote schooling work. <https://ojs.lib.uwo.ca/index.php/cie-eci/article/view/14132>
- Miller, T.** (2019, February 26). *UPEI math tutoring project draws interest from hundreds of Island students.* (Tony Davis). CBC. <https://www.cbc.ca/news/canada/prince-edward-island/upei-math-tutor-1.5036064>
- Miller, T.** (2018, May 10). *Principals advised to reduce PISA exemptions* (Kerry Campbell). CBC. <http://www.cbc.ca/news/canada/prince-edward-island/pisa-exemptions-pei-standardized-testing-1.4648062>
- Miller, T.** (2018, March 7). *P.E.I. to review standardized testing used in schools.* (Kerry Campbell). CBC. <http://www.cbc.ca/news/canada/prince-edward-island/pei-standardized-tests-1.4566036>
- Miller, T.** (2017, December 8). *Charlottetown chamber holds panel discussions on PEI's K–12 system.* (Dave Stewart). *The Guardian*, Charlottetown, PE. <https://www.theguardian.pe.ca/news/local/charlottetown-chamber-holds-panel-discussion-on-peis-k-12-system-184575/>
- Miller, T.** (2017, November 30). *Parents and teachers invited to math made easy session at UPEI.* (Dave Atkinson, UPEI Press Release). *The Guardian*, Charlottetown, PE. <https://www.theguardian.pe.ca/news/provincial/parents-and-teachers-invited-to-math-made-easy-session-at-upei-on-dec-6-166425/>
- Miller, T.** (2017, September 23). *Are we prepared for the 21st century workplace: A look at K–12 education.* (Rose Fitzpatrick). Chamber of Commerce, Charlottetown, PE.
- Miller, T.** (2014, May 8). *Poor math skills just don't add-up, opposition leader says.* (Teresa Wright). *The Guardian*, Charlottetown, PE.
- Miller, T.** (2014, January 8). *Poor math skills in PEI have reached a crisis point: UPEI Professor.* (Teresa Wright). *The Guardian*, Charlottetown, PE. <https://www.theguardian.pe.ca/news/local/poor-math-scores-in-pei-have-reached-a-crisis-point-upei-professor-96210/>

External Reviewer: International

- University of Cyprus* (2020, September). *Online formative assessment and feedback in higher education.* Cyprus Internal Funding Programme 2020.
- Fonds National de la Recherche, Luxembourg* (2017, May). *Innovation and quality assurance in digital assessment.* Doctoral Funding Scheme.
- Fonds National de la Recherche, Luxembourg* (2015, May). *Innovation and quality assurance in digital assessment.* Doctoral Funding Scheme. *Process-based investigation of teachers' diagnostic competencies in assessing student performance and task difficulty* (second submission). Fonds National de la Recherche, Luxembourg.
- Fonds National de la Recherche, Luxembourg* (2014, May). *Process-based investigation of teachers' diagnostic competences in assessing student performance and task difficulty.*

External Reviewer: National

McGill University (2023). Exploring the Relationship between Online Formative Quizzes and Students' Self-regulated Learning in Online Learning Environments. PhD dissertation.

University of Windsor (2023). Dr. Priscila Correa's Application for Tenure and Promotion to Associate Professor.

Textbook Review

Pearson Education Canada (2023, January). Elementary and Middle School Mathematics, 7th Ed.

Article Reviews: International Journals

Education Sciences (2023). Evaluating Teachers' Pedagogical Content Knowledge in implementing Classroom-Based Assessment: A Case Study Among Secondary School Teachers in Selangor, Malaysia.

Early Childhood Education Journal (2023). Components of an inclusive, democratic culture in pedagogical practice of Early Childhood Education and Care Teachers in Croatia" *Early Childhood Education Journal*.

Mathematics (2020, October). Assessment of the mathematical literacy in students of first years of engineering degrees.

Sage Open (2020, August). Opportunity to learn and its effects towards mathematics achievement: An analysis of 62 countries in PISA 2012.

International Journal of STEM Education (2020, June). To flip or not to flip: A multiyear analysis of student-centered pedagogy in an introductory physical geology course.

Early Childhood Education Journal (2020, June). Teacher-perceived developmental predictors of family involvement in pre-kindergarten.

Journal of Youth Studies (2012, November). Over-education in the early career of secondary education graduates: An analysis using sequence techniques.

Behavior Research Methods (2012, January). Computer-based assessment of student constructed responses.

Educational Studies in Mathematics (2013, March). 15 strategies, 1 Semester: A case study of cooperative learning in the college math classroom.

Journal of Education (2011, September). Assessing the psychometric properties of achievement goals questionnaire across task contexts.

Article Reviews: National Journals

Canadian Journal of Education (2020, September). Mathematical Conceptual Understanding Through Indigenous Storytelling.

Canadian Journal of Education (2018, April). Early childhood educators' and teachers' early mathematics education knowledge, beliefs, and pedagogy.

Canadian Journal of Education (2017, April). Assessing and reporting non-cognitive skills: A cross-Canada survey.

Canadian Journal of Education (2018, March). And still they persisted: The stories of four women who navigated transition in higher education.

Canadian Journal of Education (2016, September). Missing in action: Anti-oppressive discourses in ethnomathematics.

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- Canadian Journal of Education* (2017, March). And they still persisted: The stories of four women who navigated transitions in higher education.
- Canadian Journal of Education* (2017, January). Imputed meaning: An exploration of how teachers interpret grades.
- Canadian Journal of Education* (2013, March). Declining enrolment in Northern Ontario: What can history tell us and where do we go from here?
- Canadian Journal of Education* (2012, July), Canadian education embedded in globalized policy communities: OECD PISA effects on local educational policy and governance.
- Journal of Education* (2011, September). Assessing the psychometric properties of achievement goals questionnaire across task contexts.
- Canadian Journal of Education* (2011, June). Formative assessment: There's nothing more practical than a good theory.
- Canadian Journal of Education* (2011, January). Turkish students' attitudes towards geometry.
- Canadian Journal of Education* (2010, September). What has experience got to do with it? An exploration of L1 and L2 Test takers' perceptions of test performance and alignment to classroom literacy activities.
- Canadian Journal of Education* (2010, September). High stakes standardized testing and marginalized youth: An examination of the impact on those who fail.

Conference Proposal Reviewer

- Canadian Educational Researchers Association* (2011, December). High school mathematics teaching practices and student motivation that influence student achievement.
- Canadian Educational Researchers Association* (2010, December). Effects and uses of large-scale assessments.

Researcher

- Wolfe, R., Childs, & R., Elgie, S. (2004). *Final report of the external review of EQAO's assessment process*. <http://www.ontla.on.ca/library/repository/mon/8000/244807.pdf>
My Role: This was a large project that solicited experts throughout North America to examine EQAO's assessment processes. As a research assistant, I conducted an item analysis and correlation analysis on the Grade 9 mathematics large-scale assessment data.

Consultant Work - Board

- 2023** Livewell PEI. Provincial Project. Provide advice on evaluation of program.
- 2022/23** Memorial University of Newfoundland & University of Prince Edward Island Joint Medical School. Represent UPEI on student assessment and program evaluation.

Research Grants: External (Received)

- 2020-23** Blake, E., Gauthier, R., & Miller, T. (2021, January). Government of Ontario and Canadian Heritage. *Building confidence through community: Creating authentic opportunities for language engagement within a BEd (FSL) program*. (\$20,000).

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- 2019** Glendenning, D., Miller, T., McQuaid, K., & Whelan, W. (2019, September). *A multi-purpose numeracy platform*. Skills PEI. (\$34,340).
Description: As a board member, I was involved in the initial phase of this study that has the objective to develop map of math skills used in every-day life. A facilitator has been hired to lead the mapping process.
- 2018** Glendenning, D., Miller, T., McQuaid, K., & Whelan, W. (2018, October). *Assessment of continuing education and workforce development needs in the Souris area*. Skills PEI. (\$32,301).
Description: As one of four sub-committee members for Education 20/20, we applied to Skills PEI to examine the Souris workforce needs in terms of educational opportunities given that Souris has the largest number of unemployment people in PEI. This study involved interviewing employers and surveying households regarding their educational needs.
My Role: As a co-principal investigator for this grant, my role involved preparing the funding proposal, meeting with Skills PEI to negotiate the proposal, and overseeing the delivery of the proposal.
- 2016** *Foundations for student persistence and success in Inuit Nunangat*. ArcticNet. (\$200,000).
 Researcher. Successful Application. (January)
Principal Investigator: Dr. Melanie Gorman, University of Winnipeg.
My Role: I contribute expert knowledge to an environmental scan and statistical analysis, particularly in relation to measuring student success. I also anchored the team's critical literature review and analysis of how student success is measured, while contextualizing Inuit-specific assessment practices (existing or to be developed) within academic theories of assessment and national/provincial practices. I published a technical report for the website and authored a peer reviewed journal article. (Completed: 1 technical report and 1 refereed paper).
- 2011** *Examining beginning teachers' orientations to assessment: A quasi-experimental mixed methods intervention study*. SSHRC. (\$24,322). Co-applicant. (January)
Rank: 32/121 applicants. The first 30 were funded and remaining funds were distributed to the next highest applicants, which funded the first year of our study.
Principal Investigator: Dr. Cheryl Poth, University of Alberta
My Role: Administer pre- and post-questionnaires to Bachelor of Education students prior and following an intervention. The intervention at UPEI involved: (a) providing students with choice of whether weekly quizzes were used as formative or summative instruments and (b) provide instruction in an experiential environment whereby students experience assessment practices to ideally shape their understanding of assessment and impact their future practices. This research was conducted in the 2012 winter term. I was the lead researcher on this aspect of our research (focusing on experiential intervention) resulting in a paper presentation at CSSE in May 2012 and journal submission. Status: Completed.

Research Grants: External (Pending and In Progress)

- 2020** MacDonald, R., Miller, T., Montepare, W., Weibe, S., & Moffat, L. (submitted October 2020). Prince Edward Island early education program providing support for literacy education in PEI. (\$550,000) (private donor).
Role: Co-Principal Investigator
Description: International, national, and provincial large-scale assessments of student and adult achievement identifies areas where Islanders could use literacy support. In response, UPEI Faculty of Education and the Department of Applied Human Sciences joined together to examine factors influencing the well-being of Islanders. A comprehensive review of literature, a symposium of Island experts in education and health, and a survey of the public's understanding of Island needs has provided direction for educational initiatives. Based on these three sources of information we propose the creation of PEEP and SAL; programs that provide learning opportunities in literacy education across the province. PEEP and SAL will be situated in the Faculty of Education, University of Prince Edward and will hold project events distributed throughout the province. Project events include: employing Bachelor of Education students to offer tutoring for children K to 6 throughout PEI, employing experts in literacy to offer a series of sessions at all community schools, employing BEd students to offer play-based learning programs through local libraries to support early learning in K-4. The outcome of this project will be the bellwether of change

in this province. To monitor and measure the impact of PEEP and SAL, project initiatives will be underpinned by a program evaluation framework.

- 2020** DeLuca, C., Coombs, A., Doe, C., Volante, L., **Miller, T.**, Koch, M., Dubek, R., et al. (2020, June) *Maximizing our investment in Canadian Education: Strengthening student outcomes through a national research-practice network for teacher professional learning*. SSHRC Partnership Grant.

Update: Stage 1 application was successful. Our application was ranked in the first sextile and that 75 applications were received and 25 advanced to Stage 2.

Description: I am a collaborator on this grant. The purpose of the grant is to support a partnership between the Canadian Assessment for Learning Network, the Network for Inquiry and Indigenous Education, and the Queen's Assessment and Evaluation Group to develop a research-practice learning network for teachers. As part of this network, we would invite teachers from across the country to work together to engage in collaborative learning about assessment and provide them with online and face-to-face supports for their learning. My role will be to administer the study in the province of PEI.

Research Grants: Internal (Received)

- 2021** Gauthier, R., Blake, E., & Miller, T. (2021, March). Linguistic self-confidence among pre-service teachers in a French as a second language BEd program. SSHRC Explore Research Grant (SERG). (\$4792).
- 2017** *Explore the impact of instructional mathematics videos on student learning*. Faculty of Education Grant. (\$2,500). Principal Investigator.
- 2017** *Instructional video research*. Internal Research Grant. (\$5,000). Applicant.
- 2015** *Developing online learning resource for mathematics education*. Instructional Development Grant. (\$1,000). Principal Investigator
- Description: The purpose of the grant is to develop an online self-assessment based on course readings for students enrolled in mathematics education (completed).*
- 2014** *Explain everything: Using iPads as teaching, learning, and assessment tools in early mathematics education*. Joint Education Research Group. (\$2,500). Principal Investigator
- Description: The purpose of this research project was three-fold: (a) to introduce interactive technology in the form of iPads to kindergarten children, (b) study the impact of the technology on their learning of number sense (mathematics), and (c) investigate the assessment of early years children using voice recording and interactive software (using the app Explain Everything). (Completed: paper for publication).*
- 2014** *Investigating the use of iPads in assessing early learning of mathematics*. Student as Scholar. (\$1,000). Principal Investigator
- Description: The objective of this research project was to engage pre-service teachers in the early years assessment and evaluation class (ED482E), in the investigation of using technology (using the software Explain Everything) as instruments to assess early learning in mathematics. Status: Completed; conference presentation.*
- 2012** *Assessment of Critical Thinking in Professional Schools*. Major Research Grant. (\$6,929).
- Description: In response to the call for critical thinking skills in 21st century graduates, the primary objective of this study was to obtain a benchmark from which subsequent initiatives to promote, develop, and assess critical thinking can be built. A Major Research Grant will assist in launching the first stage of this research and aptly position the research team for a SSHRC Insight Grant Application (i.e., Innovation, Leadership, and Prosperity) on October 15, 2012. Research questions posed in this study were: (a) Is there an assumption that experiences create an opportunity for and the development of critical thinking? If so, how is critical thinking conceptualized in the place settings? (b) Under what conditions is critical thinking measured? (c) To what extent are students engaged in the assessment of their critical thinking? Status: SSHRC grant submitted and funding was not available.*
- 2009** *Effective use of formative computer-based assessment*. Major Research Grant. (\$2,565)

Description: The objective of this research was to: (a) develop formative computer-based assessments for use in a compulsory course (i.e., ED482) focusing on classroom assessment in the Faculty of Education at UPEI and (b) explore the extent to which students use the formative computer-based assessments and the relationship between the use of formative computer-based assessments, degree of self-regulated learning, and other summative assessments presented in the course. (Completed: paper published).

2009 *Three years of Grade 9 mathematics assessment.* Start-up Grant. (\$2,500)

Description: PEI was the last jurisdiction in Canada to adopt large-scale assessments, hence the first purpose of this study was to present a summary of the large-scale assessments introduced in PEI over the preceding three years (i.e., 2007 to 2009). The second purpose of this study was to explore PEI's large-scale assessment of Grade 9 mathematics given that this assessment was one of the first assessments introduced. The questions posed in the second part of the study are: (a) To what extent do items on PEI's Grade 9 assessment of mathematics represent the content standards (strands) and process standards called for by the National Council of Teachers of Mathematics? (b) Using an item analysis, which items are difficulty/easy for PEI students? (c) To what extent has PEI mathematics teachers in Grades 8, 9, and 10 changed their curriculum and instructional practices to reflect large-scale assessment results? (Completed: technical report published).

2008 *Differential Item Functioning Study.* New Scholar Grant. (\$1,325)

Description: The purpose of this study was to examine the relationship between teachers' instructional practices and students' opportunity to learn. In particular, differential item functioning (DIF) analyses is used to explore the relationship between instructional practices as reported on the Teacher Questionnaire administered with the Ontario provincial assessment of Grade 9 Assessment Mathematics and the corresponding student achievement scores on the Grade 9 Assessment of Mathematics. Status: completed (this study has been published [see refereed journal publications]).

Research Grants (Unsuccessful Bids)

2017 **Miller, T., & Snow, K.** (2017, October). *Addressing the shortfall in mathematics achievement: Experimenting with multimedia.* SSHRC Insight Grant—Stream A. (\$91,454).

My Role: Principal Investigator. Other applicants: Kathy Snow (University of Cape Breton)

2017 **Miller, T.** (2017, January). *The Impact of Instructional Videos on Student Achievement* (\$75,000). SSHRC Insight Development Grant.

My Role: As the principal investigator for this grant, my role includes communicating among researchers and ensuring the timely completion of each component of the study. Specifically, I will lead the development of the instructional videos as well as oversee the development of data collection instruments and analysis of data.

2014 *Pedagogy, curriculum, and assessment of critical thinking in higher education* SSHRC Insight Development Grant. (\$70,950). Applicant. Eligible for funding but no funds.

2012 *Critical thinking in work-based learning environments.* SSHRC Insight Grant (\$383,566). Applicant.

2009 *Understanding individual numeracy: How are we doing? Does it matter?* Human Resources and Skill Development Canada (HRSDC). (\$245,971).

Travel Grants

2019 UPEI Travel Grant (\$750). Attendance at Canadian Society for the Study of Education (CSSE) Conference, Vancouver, BC.

2014 Senate Committee on the Enhancement of Teaching (SCENT) Travel Grant (\$1,000) Attendance at STLHE, Kingston, ON.

2012 UPEI Travel Grant (\$1,500) Attendance at Canadian Society for the Study of Education (CSSE) Conference (CSSE), Waterloo, ON.

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- 2010** UPEI Travel Grant (\$1,500) Attendance at Canadian Society for the Study of Education (CSSE) Conference (CSSE), Montreal, QC.

Special Initiative Funding Received

- 2019** *Student Initiative Fund. Alumni Association Annual Fund. (\$10,000)*

Description: The objective of this initiative is to create a better space for students. In collaboration with two graduate students (i.e., Han Xu and Shari Mackenzie), we submitted a proposal to replace the desks in the graduate student office and furniture in the student lounge (both in Memorial Hall, rooms 303 and 306).

- 2010** *Enhancing leadership in mathematics. Students Come First Grant. (\$5,000)*

Description: The goal of this initiative was to create future leaders in mathematics education by providing four mathematics students with the opportunity to attend Ontario's provincial mathematics conference (2010) organized through the Ontario Association for Mathematics Educators. These four students would then give back to the greater mathematics community in PEI by organizing workshops for incoming pre-service teachers and beginning teachers.

Other Grants/Funding

- 2010** McGraw Hill Ryerson (\$200)

Description: Sponsored the coffee break for the Mathematics & Assessment Conference (UPEI)

- 2010** Special Initiative Fund (\$500) Presidents Office, Mathematics & Assessment Conference

Description: Partial sponsor of the Mathematics & Assessment Conference (UPEI)

- 2010** Questions Committee Technical Report (\$1,500) Vice President's Office

Description: Funds awarded (for research) to offset the time commitment to prepare the technical report.

Awards & Distinctions

- 2008** Alice Corry Bursary (\$500)

- 2006–2007** Ontario Graduate Scholarship (\$15,000)

- 2005** Bateson New Scholar Award, CSSE (\$1,000)

- 2005** Martin Schiralli Fellowship, Queen's University (\$10,000)

- 2002–2008** Queen's Graduate Scholar (\$15,000)

CONTRIBUTIONS TO TEACHING**Award Nominations**

- 2020** MacLauchlan Price for Effective Writing (nominated by Barbara Brewster)

- 2014** Graduate Instructor Nomination

Courses Taught

ED4220 Mathematics for Teachers

ED4230 Early Years Mathematics Methods I

ED4240 Early Years Mathematics Methods II

ED4230 Senior Years Mathematics Methods I

ED4820 Classroom Assessment (Primary/Elementary Program)

ED4820 Classroom Assessment (Intermediate/Senior Program)

ED6110 Introduction to Research

ED6120 Introduction to Quantitative Research

ED6190 Critical Pedagogy

ED6280 Introduction to Program Evaluation

ED7000 Advanced Quantitative Methods

Graduate Supervision

Barbara Lewis (PhD)	Supervisor: Successful defence, March 2023.
Ye (Connie) Ding	Supervisor: Successful defence, December 2021.
Han Xu (MEd)	Supervisor: Plans to defend in March 2020.
Melissa McLean (MEd)	Supervisor: Successful defence, March 2017.
Yan (Lizzie) Yan (MEd)	Supervisor: Successful defence, February 2016.
Yemi Olajide (MEd)	Supervisor: Successful defence, December 2015.
Emerald Naylor (MAIS)	Committee Member: Successful defence, August 2019.
Ryan Casey (MEd)	Committee Member: Successful defence, November 2015.
Brenda Goodine (MEd)	Committee Member: Successful defence, October 2012.
Christina Perry (MEd)	Committee Member: Successful defence, March 2011.

Directed Studies

Barbara Brewster	Course: Research Methodology and Methods
Rob Anderson	Course: Mathematics for Teachers

Graduate Service

Suha Alhothali	Chair of PhD defence (October 2020)
Lall Lall	Chair of MEd defence (December 2019)
Ian Hogg	Chair of MEd defence (October 2019)
Tim McRoberts	Chair of PhD Defence (January 2019)
Charlene VanLeeuwen	Chair of PhD Defence (December 2018)
Olive Bryanton	Chair of PhD Defence (November 2018)
Mary MacPhee	Chair of PhD Defence (February 2018)
Suha Alhothali	Chair of Comprehensive e-Portfolio Examination (January 2018)
Bonnie Stewart	Chair of Comprehensive e-Portfolio Examination (December 2012)

Involving Students in Research

2018 – pres	Han Xu	Research Assistant (Math Videos, Principal Interviews)
2019	Yan (Lizzie) Yan	Research Assistant (Exclusion rate study)
2017–2018	Will Compton	Animator (Video Development)
2017–2018	Lumeng Wang	Research Assistant (After-School Math Program)
2017–2018	Thibaut Aubert	French Translator (Video Development)

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2017–2018	Meng (Ceci) Ji	Research Assistant (Video Development)
2017	Grace Wenjohi	Research Assistant (Video Development)
2017	Alexander Kresin	Research Assistant (Math Video)
2016–2017	Melissa MacLean	Research Assistant (Item development – mathematics)
2014–2015	Yemi Olajide	Research Assistant (Math Apps in Early Learning)
2014F	Danielle Smith	Research Assistant (Math Apps in Early Learning)
2014F	Freya Qi	Research Assistant (Math Apps in Early Learning)
2014F	Gabriela Sanchez	Consultant (Early Childhood Education)
2012	Jackson Doughart	Research Assistant (Critical Thinking in Prof. Schools)
2011	Gaspard Chabillan	Research Assistant (Think-tank on Large-scale Assessment)
2010–2011	Melissa MacLean	Research Assistant (Think-tank on Large-scale Assessment)
2010	Katherine Robertson	Research Assistant (Inquiry-based Math)
2010	Leigh-Anne Gilroy	Research Assistant (Inquiry-based Math)
2010	Lauren Van Ekris	Research Assistant (Inquiry-based Math)

CONTRIBUTION TO THE UNIVERSITY AND ACADEMIC COMMUNITY**University Committees**

2020 -	AAU Representative
2020 – 2021	MAIS Steering Committee (Education representative)
2018–2019	University Review Committee
2017–2018	Strategic Plan Committee
2014	Senate (1 replacement for Dr. MacDonald)
2013	Search Committee (1 Program Coordinator, Faculty Development Office & 1 Faculty Development Officer)
2010–2020	Graduate Studies Committee Graduate Coordinator since January 2017 (Awards Sub-Committee)
2011	Department Review Committee (Reviewer for three applications for promotion)
2011	SSHRC Adjudication Committee (Adjudicated Master's and PhD Student SSHRC applications)
2011	UPEI Faculty of Education, Search Committee (4 term contracts in Global Issues)
2010	UPEI Questions Committee (Student Opinion of Teaching Survey) (Committee was responsible for conducting the five-year review of the Student Opinion of Teaching Survey. My role involved preparing the report for the committee [cited below under technical reports])
2009	UPEI New Building Committee

- (Provided input on requirements for a new building for the Faculty of Education)
- 2009** UPEI Faculty of Education, Search Committee
(Hiring of one tenure stream faculty in international education)
- 2008–2012** UPEI Senate Committee on Enhancement of Teaching (SCENT)
(Attend monthly meetings to plan events and adjudicate grants sponsored through SCENT. In 2011, I became the chair of SCENT)
- 2008–2009** Classroom Audit Committee, University of Prince Edward Island
(Committee responsible for evaluating the conditions of classrooms throughout the university)
- 2007–2008** Queen’s University Appointments Committee
(Hiring of one tenure stream faculty in policy studies)
- 2003–2004** Queen’s University, Faculty of Education Research in Progress Seminar Series
(Co-Chair responsible for planning, organizing, and hosting monthly seminars that involved sharing of research by faculty and students)
- 2004** Queen’s University, Faculty of Education Kelly Conference
(Program Developer responsible to timetabling presentations and preparing conference program)
- 2004–2006** Queen’s University, Faculty of Education B.Ed. Selection Committee
(Reader for students’ letters of application)

Faculty of Education, UPEI, Committees

- 2009–2021** Graduate Studies Committee
Graduate Studies Coordinator since 2016
Sub-Committees:
- 2018-2021** Graduate Student Awards
Meet twice a year to adjudicate Faculty of Education Student and Faculty Grants
- 2020** Graduate Curriculum Review Committee
Met every 3 to 4 weeks to review current courses to update course descriptions and write course outcomes for all courses
- 2019** International Student Pathways Committee
Meet monthly to identify logistics of pathways for international students to identify opportunities to integrate with domestic counterparts and segue into related careers (e.g., ECE and Certificate in Adult Education)
- 2013–2020** Dean’s Advisory Council
- 2012–2020** Search Committee - Faculty of Education
2020 – Tenure track – Early Childhood Education (changed to term position)
2020 – Tenure track – French (changed to term position)
2020 – Term Position (2) - French
2017 – 2018 Tenure track – International education and Indigenous Education
2017 – 2019 Tenure track – Indigenous Education and Climate Change
2016 – 2017 Tenure track – Indigenous Education and Arts
2019 6-month term
2017 – 2018 Tenure track - Leadership
2015 – 2016 Tenure track – Inclusive Education
2014 – 2015 Tenure track – Leadership
- 2018–2020** Hiring Committee - Sessional Instructors
- 2012–2016** Department Review Committee
(Reviewer for 4 applications for promotion)
- 2014–2018** BEd Awards Committee
- 2018** Community and Culture Building Committee

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2018 Global Pathways Committee

Provincial Committees2009–pres. Canadian Evaluation Society, PEI Chapter, Board of Directors
(President)

2010–2021 Education 20/20, Board of Directors

National Committees2019–2023 Canadian Educational Researchers Association, Board of Executives
(responsible for reviewing articles submitted and recommending prospective reviewers)2016–2019 Consulting Editor, Canadian Journal of Education
(responsible for reviewing articles submitted and recommending prospective reviewers)2008–2009 Canadian Educational Researchers' Association, Board of Directors
(Chair of Newsletter)**University Presentations/Workshops***Rating scales and rubrics: What's the difference?* (2011, May). Senate Committee for the Enhancement of Teaching (SCENT): Brown Bag Lunch Presentation.*Three years of Grade 9 mathematics assessment: Factors influencing student achievement.* (2001, May). Centre for Educational Research (CER) Presentation.*Effective use of rubrics.* (2010, April). Senate Committee for the Enhancement of Teaching (SCENT): Brown Bag Lunch Presentation.*Formative computer-based assessment.* (2009, October). Centre for Educational Research (CER) Presentation.**CONTRIBUTIONS TO THE COMMUNITY**

2015 Fractions Workshop (January 22)

Description: This was the first workshop in a series of three workshops for the PEI community that focused on foundational concepts in mathematics. The workshops were well received by the public and for the fractions workshop, the room was overflowing with participants.

2015 Decimals Workshop (February 3)

2015 Multiplication Workshop (April 9)

2010 Mathematics and Assessment Seminar Series

Description: This second seminar series was organized by my senior years mathematics students (BEd) as an after school/work workshop. Students presented various hands-on workshops that were offered to PEI teachers and BEd students.

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2009 Mathematics and Assessment Seminar Series

Description: This seminar series was primarily sponsored through the PEI Department of Education and the UPEI President's Office and McGraw Hill Ryerson provided additional funding. Teachers of Grades 7, 8, and 9 mathematics were invited to participate ($n = 87$). Experts in mathematics education were invited to present (Wayne Erdman and Rolley Meisel from ON). All handouts were translated into French to support teachers from French language schools. In addition to organizing the event, I provided the opening address and, with students in my senior

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mathematics class, presented 2 workshops (i.e., Furniture and the Fibonacci Gauge, The Coffee Challenge). Dr. Khym Goslin provided the closing address that focused on how changing how mathematics is taught.

2008–2009 Official Proctor, PEI Department of Education

Description: This position involved overseeing the scoring of PEI's large-scale assessment. Responsibilities included ensuring procedures for ensuring test security and scoring were followed.

Professional Memberships

Ontario Association for Mathematics Educators

Canadian Evaluation Society (PEI Chapter)

Canadian Educational Researchers Association (Canadian Society for Studies in Education)

American Educators Research Association