JACQUELINE P. LEIGHTON, Ph.D., R.Psych
Professor of Educational Psychology and Registered Psychologist
Curriculum Vitae – SEPTEMBER 2026

Centre for Research in Applied Measurement and Evaluation
Research Office Ed North 6-119D; Vice Dean Office - Ed South 537, Faculty of Education; College of Social Sciences + Humanities, University of Alberta, Edmonton, Alberta, Canada, T6G 2G5
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Email: Jacqueline.Leighton@ualberta.ca

Adjunct Academic Colleague in Department of Human Ecology, ALES, CNAS

Fellow, International Academy of Education

Affiliate of the Child Rights Academic Network (CRAN)
www.carleton.ca/landonpearsoncentre/cran-members/
Landon Pearson Resource Center for the Study of Childhood and Children's Rights
Carleton University, Ottawa, Ontario, Canada

Advisory Board – **Fledge Health** (www.fledge.health)

RESEARCH INTERESTS AND EXPERTISE

Human development and learning; Freedom of expression and action in learning environments; Children's (and overall human) rights in assessment of and for learning; measurement of affective, cognitive and social variables; learning interventions and formative feedback; learning errors; social-cognitive diagnostic assessment.

EDUCATIONAL TRAINING & PROFESSIONAL DESIGNATIONS

- Registered Member of **College of Alberta Psychologists** (CAP), May 2006, Certification #3129

- Post-Doctoral Fellow (PDF; **Psychology**) 1999 - 2001, Yale University, New Haven, CT, USA
  - (Funded by Postdoctoral Fellowship [1999-2001] *Social Sciences and Humanities Research Council of Canada—SSHRC*); Supervisor: Dr. Robert J. Sternberg; *Resulting publication The Nature of Reasoning,* Cambridge University Press.

- Ph.D. (**Psychology**) 1999, **University of Alberta,** Edmonton, AB, CANADA
  - Dissertation: *An Alternate Approach to Understanding Formal Reasoning: Thinking According to the Inductive-Coherence Model; Resulting publication in Cognitive Systems Research*
  - (Funded by Doctoral Fellowship [1995 – 1999] *Social Sciences and Humanities Research Council of Canada—SSHRC*); Co-Supervised: Drs. Michael R.W. Dawson and C. Donald Heth

- M.Ed. (Educational **Psychology**) 1995, University of Alberta, Edmonton, AB, CANADA
  - Master's thesis: *Circumventing ANCOVA's Homogeneity Assumption With the Johnson-Neyman Method and Mathematica™; Resulting publication in Journal of Educational and Behavioral Statistics*
  - (Funded by Postgraduate Fellowship [1993 – 1995] *Natural Sciences and Engineering Research Council of Canada—NSERC*); Supervisor: Dr. Steve M. Hunka

- B.A. (Honours—**Psychology**) 1993, University of Alberta, Edmonton, AB, CANADA
  - Honour's thesis: *Assessing Children's and Adults' Understanding of the Ozone Layer (published in International Journal of Science Education)*
  - (Funded by two independent Undergraduate Student Awards [1992, 1993] *Natural Sciences and Engineering Research Council of Canada—NSERC)*; Supervisor: Dr. Gay L. Bisanz

SCHOLARLY AND PROFESSIONAL DEVELOPMENT

- **Certificate of Participation - International Summer Course on the Rights of the Child** (Moncton, New Brunswick) – 12th edition Raising the Banners of Freedom – Activism and Civic Participation of Children and Youth pursuant to Article 12 of the UNCRC (June 26-30, 2023)

- **Certificate of Participation - International Summer Course on the Rights of the Child** (Moncton, New Brunswick) – 11th edition The World's Largest Minority: Special Focus on the Rights of Children and Youth with Disabilities and Special Needs (June 19-24, 2022)

- **Certificate of Completion (Dept. of Child Law, Leiden Law School, Leiden University, Netherlands**) – 8th Edition of Frontiers of Children's Rights Summer School, June-July 2021

- **HarvardX Certificate of Achievement (Harvard University; FXB001)** - Child Protection: Children's Rights in Theory and Practice, May 2020

ACADEMIC EMPLOYMENT HISTORY

2023 - Present	**Vice-Dean, Faculty of Education, Faculty Development and Faculty Affairs** • Current Portfolio [2026 – Present] – All EDPY and EDPS programs, HSE, and EDU 100 • Past Portfolio [2023 -2026] – Elementary Education, Select EDPY and EDPS programs, HSE, and EDU 100
2011 – 2016	Chair, Department of Educational Psychology, Faculty of Education
2009 – 2011	Director, Centre for Research in Applied Measurement and Evaluation (CRAME)
2008 – Present	**Full Professor, University of Alberta, Department of Educational Psychology**
2005 – 2008	Associate Professor, University of Alberta, Department of Educational Psychology
2001 – 2005	Assistant Professor, University of Alberta, Department of Educational Psychology
2000 – 2001	Visiting Research Scholar, University of Maryland, College Park, Department of Human Development
1999 – 2001	SSHRC Postdoctoral Fellow, Yale University, Department of Psychology
1999 (Jan – April)	Teaching Assistant, University of Alberta, Department of Psychology
1998 (Sept – Dec)	Teaching Assistant, University of Alberta, Department of Psychology
1995 – 1998	Research Assistant, University of Alberta, Department of Educational Psychology
1997 (May – June)	Instructor, University of Alberta, Department of Psychology
1996 (Jan – April)	Statistics Lab Instructor, University of Alberta, Department of Psychology
1995 – 1996	Research Assistant, University of Alberta, Department of Psychology
1994 – 1995	Statistical Consultant, University of Alberta, Department of Educational Psychology
1994 (May – June)	Project Coordinator, University of Alberta, Department of Psychology
1993 – 1994	Research Assistant, University of Alberta, Department of Educational Psychology & Edmonton Catholic School Board
1993 (May – Aug)	Research Assistant, University of Alberta, Department of Psychology
1993 (Jan – April)	Teaching Assistant, University of Alberta, Department of Psychology
1992 (Sept – Dec)	Teaching Assistant, University of Alberta, Department of Psychology
1992 (May – July)	Teaching Assistant, University of Alberta, Department of Psychology

PRIMARY ADMINISTRATIVE EXPERIENCE

Vice-Dean (Faculty Development and Faculty Affairs), Faculty of Education, University of Alberta (July 2023 – Present)

- Strategically positions and represents the Faculty in such a way as to ensure that it is acknowledged internally and externally for its contributions; promotes strong partnerships which benefit the Faculty, the College and the University; works collaboratively with the Dean and Senior Advisor EDI to advance EDI commitments, including the creation of an EDI action plan for the Faculty; creates a Positive Working Environment; works to build cohesion amongst faculty members and programs by promoting a positive, supportive climate with good morale, cooperation and collegiality; actively fosters a culture of equity, respect and collaboration where everyone understands the vision and how they contribute to the success of students and the Faculty's overall success; incorporates the goals of the University EDI Action Plan in short and long term planning; recognizes and acknowledges the contributions of all.

Chair of *Department of Educational Psychology*, Faculty of Education, University of Alberta (July 2011 – 2016)

- Strategically positions the Dept. of Educational Psychology for success; creates a positive working environment; manages the administration of the Dept. within the parameters established by the faculty and university; maintains good internal and external departmental relationships; develops and evaluates departmental staff; plans for the future of the dept., builds academic programming and assigns work accordingly; plays a role in public relations and fund development; remains active in scholarly pursuits

Director of *Centre for Research in Applied Measurement and Evaluation (CRAME)*, Department of Educational Psychology, University of Alberta (Sept. 2009—July 2011)

- Strategically positions CRAME to be successful in research initiatives such as grant writing, and scholarly output; manages research climate and student-based statistical consulting; creates a positive research environment for staff and students, and fosters new and productive relationships with university community; plans new research initiatives; explores new avenues for external funding and promotes new methods to acquire funding; models active research program and department citizenry; writes annual report of research activities

Editor-in-chief of *Educational Measurement: Issues and Practice (EM:IP),* flagship scholarly journal of the *National Council on Measurement in Education (NCME)*, the largest professional organization of measurement specialists in the USA (Jan 2010 to Jan 2013)

- Upholds scholarly and scientific standards of the research disseminated in the journal; manages the review of approximately 100 manuscripts a year, including selecting three reviewers, reading all manuscripts, synthesizing reviewer comments, and writing decision letters; writes editorials for all issues (4 per year); answers author and reviewer queries about journal and electronic submission system (ScholarOne); explores opportunities to advance journal (e.g., impact factor information); writes reports to governing NCME board

Chair of Publications Committee, *National Council on Measurement in Education (NCME)*—USA (April, 2008 to April, 2009) and member of committee from (April 2007 to April 2008)

- Organizes discussion of NCME publication issues with committee members such as page limits for NCME journals and NCME newsletter, consideration of new journals, issues of copyright for journals and newsletter; explores methods of promoting NCME journals

Program Chair for Annual Meeting of the *Canadian Educational Research Association (CERA) Division of the Canadian Society for the Study of Education (CSSE)* (Jan. to June 2005, London, Ontario)

- Solicits conference proposals over the internet; distributes proposals for review; synthesizes reviews and prepares decision letters of acceptance or rejection of proposals; organizes schedule of presentations; supervises schedule of events during the annual meeting/conference; creates positive conference experience by organizing social events; writes final report on number of submissions, presentations, and organization of meeting

UNIVERSITY OF ALBERTA SERVICE

2023 - present	Member, Provost Advisory Council of Chairs (PACC), Chaired by Provost, University of Alberta
2023 - present	Member, Chair's Council **Executive** (CCE)
2023 - present	Member, Chair's Council; Chaired by U of A President
2025 - 2026	People Strategy Steering Committee (Institutional Values Development Work); Chaired by Provost and Vice President University Services, Operations and Finance
2023 - 2026	Culture of Care Focus Group; Chaired by Special Advisor to the HRHSE Associate Vice President
May 2023	Peter Lougheed Leadership College, Guest contributor to podcast for leadership series on communicating with tact and tone. Interviewer/Podcaster Dr. Torah Kachur
2022-2022	Member of Selection Committee for College Dean and Vice-Provost of College of Natural and Applied Sciences (CNAS); Chaired by Provost
2021 - 2023	Member of Academic Planning Committee (APC); Chaired by Provost
2021 - 2023	Member of General Faculties Council (GFC); Chaired by University President
2021 – 2022	Remote Learning Task Force; Chaired by John Nychka and Helen Vallianatos
2017 – 2021	Member Izaak Walton Killam Memorial and Grant Notley Postdoctoral Fellowship Committee
2015 - 2018	Member of Institutional Strategic Planning (ISP) Advisory Committee to the President and Provost/Vice-President (Academic)
2015 – 2016	Chair of Chair's Council Executive (CCE)
2012 – 2016	Member, Provost Advisory Council of Chairs (PACC), Chaired by Provost, University of Alberta
2014 – 2015	Peter Lougheed Leadership College, led by Founding Principal, the Right Honourable Kim Campbell, member (contributor) of the Foundations of Leadership (FoL) Course
2014 – 2016	Resource Management Steering Committee (RMSC)/University of Alberta Budget Model (UABM) Oversight Committee, Chaired by Phyllis Clark (Vice-President, Finance and Administration) and Kerry Mummery (Dean, Physical Education and Recreation)
2014 – 2015	Resource Management Steering Committee (RMSC)/University of Alberta Budget Model (UABM) Oversight Committee Revenue Recognition/Distribution Working Group, Co-chaired by Philip Stack (Associate Vice-President, Risk-Management) and Jacqueline Leighton
2014 – 2015	Resource Management Steering Committee (RMSC)/University of Alberta Budget Model (UABM) Oversight Committee Human Resources Working Group, Co-Chaired by Wayne Patterson (Executive Director, Human Resource Services) and Jacqueline Leighton
2014 – 2015	Resource Management Steering Committee (RMSC)/ University of Alberta Budget Model (UABM) Oversight Committee Information Technology Working Group, member, Chaired by Mike McGregor (Vice Provost, Information Technology) and H. James Hoover
2013 – 2016	General Faculties Council (GFC) Committee on the Learning Environment (CLE), Chaired by Associate Vice-Provost, Academic Programs and Instruction
2013 – 2016	Killam Trusts Committee, Chaired by Provost
2013 –2017	Provost Digital Learning Committee (PDLC), Chaired by Drs. Mike Carbonaro and Sarah Forgie
2012 – 2013	Collegium VOCALE, Chaired by Former Dean Mike Percy (Business), University of Alberta, Committee focused on creating measures and action plan for student engagement at the university
2012 – 2015	Member, Chair's Council Executive (CCE), Chaired by Dr. Jed Harrison (Chemistry), University of Alberta
2012	Member of six-person Committee to Review the Kule Institute for Advanced Studies (KIAS) at the University of Alberta, Chaired by Dr. Murray Gray, Vice-Provost (Academic)
2011 – 2012	The Umbrella Committee, Chaired by Dr. Carl Amrhein, Provost, University of Alberta
2010 – 2011	Scholarships and Fellowships Committee, Chaired by Dr. Mazi Shirvani, Dean of Faculty of Graduate Studies and Research
2010 – 2011	Department of Educational Psychology Representative on Association of Academic Staff, University of Alberta (AASUA)

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY SERVICE (The Faculty of Education ceased being departmentalized July 1, 2022).

2018 – 2022	Member of Neutral (Non-Examining) Chairs for Graduate Examining Committees
2011 – 2016	Chair of Department of Educational Psychology
2011 – 2012	Web Strategy Committee
2009 – 2011	Director of CRAME
2009 – 2011	Member of Participant Pool Research Participation Project
2007	Statutory Ethics Representative for Ethics Review Board: Research
2006 – 2008	Alternate Representative for Ethics Review Board: Research
2005 – 2011	Scholarships and Fellowships Committee
2002 – 2005	Graduate Issues Committee
2003	Letter Grading Presentation to EDPY Staff
2002 – 2003	Graduate Admissions Selection Committee

FACULTY OF EDUCATION ADMINSTRATION/SERVICE

2026 - Present	Ad Hoc Working Group on **Program and Schedule Optimization**
2026 - Present	Ad Hoc Working Group on **Graduate Student Experience** and Program Functioning; Chaired by Associate Dean Graduate Studies
2025 - Present	Graduate Student Assistantship (GTA) Allocation Working Group; Chaired by Faculty Administrative Manger (HR)
2023 - Present	Member, Dean's Advisory Committee (DAC)
2024 - Present	Member of Neutral (Non-Examining) Chairs for Graduate Examining Committees
2025 – 2026	Member of **Undergraduate** Program Review Working Group; Chaired by Associate Dean Academic and Student Experience
2025-2026	Delegated Chair of Advisory Selection Committee for Tenure-track Assistant professor or Associate Professor position in Social Justice and International Studies
2025-2026	Delegated Chair of Advisory Selection Committee for Tenure-track Assistant professor position in Counselling Psychology
2025-2026	Delegated Chair of Advisory Selection Committee for Tenure-track Assistant professor position in K-12 Science Education
2025	Delegated Chair of Advisory Selection Committee for Faculty Service Officer (Access, Community and Belonging)
2024 - 2025	EDI in Academic Processes Collaborator/Consulting Group - Member
2023 - 2024	Interim Chair – Faculty Discussion and Consultation (FDC) Forum
2022 - 2023	Member of Student Scholarships and Awards Committee; Chaired by Associate Chair Dr. Lesly Wade-Wolley
2019 - 2023	Member of Undergraduate Program Renewal Working Group (Indigenous Education)
2020 - 2020	Member of the Academic Teaching Staff Evaluation Committee (ATSEC)
2019 - 2023	Undergraduate Academic Affairs Council
2019 - 2021	Faculty Teaching Awards Committee
2017 - 2019	Academic Appeals Committee
2017 - 2019	Dean's Pool for Department Advisory Selection Reps
2015 - 2016	Member of Advisory Committee to the Interim Dean, Institute for Sexual Minorities Studies and Services (iSMSS)
2011 – 2016	Dean's Advisory Committee (DAC)
2011 – 2015	Faculty of Education Academic Planning Working Group
2013 – 2014	Faculty Budget Working Group
2011 – 2013	Program of Studies (PoS) BEd Undergraduate Teacher Education

2011 – 2016	Masters of Educational Studies (MES) Advisory Board
2010 - 2011; 2015 - 2016	Member of Faculty Advisory Committee for Masters in Health Sciences Education Program
2010 – 2011	Web Engagement Ad hoc Committee
2009 – 2011	Committee member of Faculty Advisory Council
2007	Presenter of SSHRC standard research grant workshop to faculty audience
2006	Member of Measurement, Evaluation, and Cognition Hiring Committee
2005 – 2007	Graduate Academic Affairs Council (GAAC)
2002 – 2005	Diversity, Equity, and Respect Committee
2002 – 2002	Member of Advisory Selection Panel for Adult Education Hiring Committee

ADDITIONAL SERVICE TO NATIONAL and INTERNATIONAL SCHOLARLY COMMUNITY

- Member, Campus Belonging Network Oversight Committee; Chaired by Dr. Heather Brown (2023- Present)
- Member of Fledge Advisory Board; Chaired by Jenna Galloway (Founder and CEO) (2023-Present)
- *Panel Member of Expert Review Panel* for Master of Counselling, Gonzaga University. Quality Assurance Unit. BC Ministry of Post-Secondary Education and Future Skills (Feb – April 2023)
- *National Council of State Boards of Nursing (NCSBN),* Chicago, IL, Research advising on response process item validation (April 2018 – April 2019)
- *Social Science and Research Council of Canada (SSHRC) Insight Development Grant Adjudication Committee* (Multidisciplinary) (March 2018 – May 2018).
- *Association of International Certified Public Accountants (AICPA),* Ewing, NJ, member of Defining Professional Skepticism Task Force (January 2017 – 2018)
- *National Council on Measurement in Education (NCME)*, Washington DC, member of ITEMS Advisory Board for journal Educational Measurement: Issues and Practice (2016 - Present)
- *Council of Ministers of Education (CMEC), Toronto, Canada*, member of computer-based assessment advisory panel (2015)
- *International Test Commission (ITC),* 2016 Annual Conference, member of International Advisory Committee to the Organizing Committee (2015 - 2016)
- *ACT (formerly known as American College Testing prior to 1996), Iowa City, USA*, (2015 – present), member of Technical Advisory Committee
- *National Assessment for Educational Progress (NAEP) & National Centre for Education Statistics (NCES), Washington DC, USA* (2014 – 2016), member of Design and Analysis Committee
- *College Board, New York, USA* (2014 – present), member of the Grades 6-12 ELA Curriculum Development Committee (AP)
- *Pearson Technical Advisory Committee for San Juan, Puerto Rico* Department of Education Standardized Assessments (2012 – 2015), member
- *American Institute of Certified Public Accountants* (2013 – 2015), member of Psychometric Oversight Committee for Test Research and Development
- *American Institute of Certified Public Accountants* (2014 – 2016), member of Psychometric Oversight Committee on Practice Analysis Sponsor Group
- *College Board, New York, USA* (2011-2013), member of Advisory Committee for Research and Development
- *Pearson, San Antonio, Texas, USA* (2011-2012), member of Advisory Committee for fourth Edition of the *Orleans-Hanna Algebra Prognosis Test*
- *Faculty of Medicine, University of Alberta, Undergraduate Office of Surgical Education* (2009-2010), advisor on instrument/measure development & statistical analysis—Surgery, Anaesthesiology & Pain Medicine Clerkship
- *Faculty of Medicine, University of Alberta, Medicine Chair for Obesity* (2009-2010), advisor on instrument/measure development & statistical analysis—Aetiological Tool for the assessment and management of obesity

- *Edmonton Regional Learning Consortium, Alberta* (Nov. 2007), facilitator and presenter at two-day workshop on Designing Successful Assessments (including multiple-choice and constructed-response formats) for social studies teachers and consultants
- *Learning Support Services, Edmonton Catholic Schools, Alberta* (Feb. 2007), facilitator and presenter on test development for the measurement of higher-level thinking skills using multiple-choice item format
- *Council of Ministers of Education (CMEC), Toronto, Canada* (2005-2007), member of working group designed to assist School Achievement Indicators Program (SAIP) Coordinator with the development of the Questionnaire Framework/Instruments for the Pan-Canadian Assessment Program (PCAP) assessment of 13-year-old students.
- *Education Quality and Accountability Office, Toronto, Canada* (2006), advisor for Director of Special Projects on alternative access arrangement for educational researchers to access achievement data files (with accompanying documentation, survey and demographic data) through web portal
- *College Board, New York, USA* (2003-2004), advisor on topics related to cognitive psychology for College Board research contract examining the cognitive/statistical dimensionality of the SAT™
- *Reviewer for University Promotion and Tenure (including Full Professor Promotions)*
    - Rutgers, The State University of New Jersey, NJ, USA (Tenure Application)
    - University of Ottawa, Ottawa, Ontario, CANADA (Tenure Application)
    - University of Wisconsin, Milwaukee, USA (Full Professor Application)
    - The Ohio State University, Columbus, Ohio, USA (Full Professor Application)
    - University of Delaware, Newark, Delaware, USA (Tenure Application)
    - University of Toronto/OISE, Toronto, Ontario, CANADA (Tenure Application)
- *Advisory Editorship*
    - Journal of Educational Measurement (2019 – 2025)
    - Journal of Educational Measurement (2007- 2010)
    - Canadian Journal of School Psychology (2010-2013)
- *Ad hoc Reviewer of Manuscripts for Scholarly Journals and Book Presses:*
    - International Journal of Testing; Assessment in Education: Principles, Policy & Practice; Educational Assessment; Applied Cognitive Psychology; Educational Measurement: Issues & Practice; Canadian Journal of Education; Canadian Journal of Program Evaluation; Alberta Journal of Educational Research; Learning and Individual Differences; Field Methods; Psychology Press & Brunner-Routledge Current Issues in Thinking and Reasoning series; Cambridge University Press (psychology)
- *Ad hoc Reviewer of Research Proposals for Granting Agency:*
    - Social Sciences and Humanities Research Council of Canada (SSHRC)
- *Ad hoc Reviewer of Conference Proposals for Professional Associations:*
    - Canadian Society for the Study of Education (CSSE), Canadian Educational Research Association
    - American Educational Research Association (AERA), Division D (Educational Measurement & Research Methodology), SIG Cognition & Assessment Group
    - National Council on Measurement in Education (NCME)

EXTERNAL RESEARCH GRANTS: Total Amount Awarded to Date: Approximately $9,162,000 CAD

1. Troitschanskaia, O. (Principal Investigator - JGU Mainz); Küchemann, S. (PI - LMU München); Brückner, S. (PI - JGU Mainz), Klose, V. (PI - GU Frankfurt); Weber, M. (PI - GU Frankfurt); **Leighton, J.P (Co-PI - University of Alberta);** Dengel, A. (Co-PI – DFKI); Ishimaru, S. (Co-PI - TUK/DFKI). German Research Foundation (DFG): "Students' Generic and Domain-specific Critical Online Reasoning Task-solving Processes and Strategies and Their Development over the Course of a Degree Program in and across the Four Domains (Economics, Medicine, Physic, Sociology)"

Awarded: $884,000 CAD (YEARS: 2023-2027)

2. Cutumisu, M. (Principal Investigator); Co-Applicants/Investigators: Cui, Y., **Leighton, J.P.**, & Gierl, M.J. Social Sciences and Humanities Research Council of Canada (SSHRC) Insight grant: "A model of computational thinking for deeper learning"

Awarded: $399,987 CAD (YEARS: 2020-2025)

3. Cui, Y. (Principal Investigator); Co-Applicants/Investigators: Cutumisu, M. & **Leighton, J.P.;** Collaborator: Chu, M-W. (University of Calgary). Social Sciences and Humanities Research Council of Canada (SSHRC) Insight grant:
"Digital Performance-Based Learning and Assessment System for Teaching Data Literacy"
Awarded: $298,689 CAD (Years: 2019-2024)

4. Peck, C. (Principal Investigator), Co-Applicants/Investigators/Members of Executive Committee: Gibson, L. (University of Alberta); **Leighton, J.P. (University of Alberta**); Battiste, M. (University of Saskatchewan); Clark, P. (University of British Columbia); Dagenais, M. (McMaster University); Duquette, C. (University of Quebec [Chicoutimi]); Llewellyn, K. (Renison University College); Sears, A. (University of New Brunswick); Zanazanian, P. (McGill University). Collaborators: Scott, D. (University of Calgary); McGregor, H. (University of Ottawa); Robinson, I. (St. Francis Xavier University); Pettit, J. (Mount Royal University); Tinkham, J. (Acadia University); Tupper, J. (University of Alberta); Lutz, J. (University of Victoria); O'Neill, K. (Simon Fraser University); Windsor, L. (University of New Brunswick); McLean, L. (University of Ottawa); Cappello, M. (University of Regina); Ng-A-Fook, N. (University of Ottawa);; Seixas, P. (UBC); Levesque, S. (University of Quebec [Chicoutimi]); Christou, T. (Queen's University); Gosselin, V. (Museum of Vancouver); Larouche, C. (University of Quebec [Trois-Rivieres]); Lefrancois, D. (University of Quebec [Outaouais]); Letourneau, J. (University of Laval); Lindstrom, G. (Mount Royal University); McKay, I. (McMaster University); Orr, J. (St. Francis Xavier University); and Kee, K. (University of Ottawa). Social Sciences and Humanities Research Council (SSHRC) Partnership Grant:
"Thinking Historically for Canada's Future"
Awarded: $2,500,000 CAD (Years: 2019-2026)

5. **Leighton, J.P.** (Principal Investigator); National Council of State Boards of Nursing (NCSBN) research grant: "Think Aloud Evidence of Next Generation Items"
Awarded: $31,200 (USD) Approx CAD value: $37,440 (1.2 Exchange Rate) (Years: 2018-2019)

6. Peck, C. (Principal Investigator), Co-Investigators: Sears, A. (University of New Brunswick); Scott, D. (University of Calgary); McGregor, H. (University of Ottawa); Robinson, I. (St. Francis Xavier University); **Leighton, J.** (University of Alberta); Pettit, J. (Mount Royal University); Tinkham, J. (Acadia University); Tupper, J. (University of Alberta); Lutz, J. (University of Victoria); O'Neill, K. (Simon Fraser University); Llewellyn, K. (Renison University College); Windsor, L. (University of New Brunswick); Gibson, L. (University of Alberta); McLean, L. (University of Ottawa); Battiste, M. (University of Saskatchewan); Dagenais, M. (McMaster University); Cappello, M. (University of Regina); Ng-A-Fook, N. (University of Ottawa); Zanazanian, P. (McGill University); Clark, P. (UBC); Seixas, P. (UBC); Levesque, S. (University of Quebec [Chicoutimi]); Christou, T. (Queen's University); Gosselin, V. (Museum of Vancouver); Duquette, C. (University of Quebec [Chicoutimi]); Larouche, C. (University of Quebec [Trois-Rivieres]); Lefrancois, D. (University of Quebec [Outaouais]); Letourneau, J. (University of Laval); Lindstrom, G. (Mount Royal University); McKay, I. (McMaster University); Orr, J. (St. Francis Xavier University); and Kee, K. (University of Ottawa). Social Sciences and Humanities Research Council (SSHRC) Partnership Grant:
"Thinking Historically for Canada's Future"
Awarded/Funded Letter of Intent (LOI): $20,000 CAD (2018-2019)

7. **Leighton, J.P**. (Principal/Sole Investigator); Social Sciences and Humanities Research Council of Canada (SSHRC) Insight grant:
"Disruptive Innovation for Teaching and Assessing Diverse Learners: Application of the LEAFF Model in K-6"
Awarded: $309,941 CAD (Years: 2016-2021)

8. Hall, N (McGill University, Principal Investigator), Co-investigators: R. Azevedo, F. Guay; Collaborators: B. Weiner, R. Koestner, A. Chiarella, **J. Leighton**, K. Kee, T. Rahilly, V. Venkatesh; Social Sciences and Humanities Research Council of Canada Insight Grant:
"Motivational Interventions in Higher Education: Utilizing Internet and Mobile Technology to Improve Student Development"
Awarded: $264,000 CAD (2013-2018)

9. **Leighton, J.P**. (Principal Investigator); Suzuki Charter School, Edmonton, AB: "Suzuki Charter School Academy – Successful Learning Research Project"

Awarded: $26,888 (2012-2013)

10. Lajoie, S.P. (McGill University, Principle Investigator), Co-Investigators: Azevedo, R. (Theme Leader [Learning Sciences]; McGill University), Lachapelle, K. (McGill University), Muis, K. (McGill University), Wiseman, J. (McGill University), Hmelo-Silver, C. (State University of New Jersey, Rutgers), **Leighton, J. (Theme Leader [Assessment]; University of Alberta),** Shute, V. (Florida State), Pekrun, R. (Theme Leader [Emotions]; Ludwig-Maximilians Universitat Munchen), Frasson, C. (University of Montreal), Calvos, R. (University of Sydney), Lester, J. (North Carolina State), Jang, E. (University of Toronto), and Stupnisky, R. (University of North Dakota); Collaborators: Bracewell, R. (McGill), Molenaar, P. (Pennsylvania State University); Partners: Arnold and Belma Steinberg Medical Simulation Centre; Groupe de Recherche Inter-universitaire en Tutoriels Intelligents; LearnLab Pittsburgh Science of Learning Center; The Centre for Medical Education; The Health Sciences Education and Research Commons; Reseau Reussite Montreal; The Computer Research Institute; and Rocky View Schools; Social Sciences and Humanities Research Council (SSHRC) Partnership Grant:
    "Learning Across the Disciplines: Supporting Technology Rich Learning Across Disciplines"

Awarded: $2,500,000 CAD (2011-2018)

11. Lajoie, S.P. (McGill University, Principle Investigator), Co-Investigators: Azevedo, R. (Theme Leader [Learning Sciences]; McGill University), Lachapelle, K. (McGill University), Muis, K. (McGill University), Wiseman, J. (McGill University), Hmelo-Silver, C. (State University of New Jersey, Rutgers), **Leighton, J. (Theme Leader [Assessment]; University of Alberta),** Shute, V. (Florida State), Pekrun, R. (Theme Leader [Emotions]; Ludwig-Maximilians Universitat Munchen), Frasson, C. (University of Montreal), Calvos, R. (University of Sydney), Lester, J. (North Carolina State), Jang, E. (University of Toronto), and Stupnisky, R. (University of North Dakota); Collaborators: Bracewell, R. (McGill), Molenaar, P. (Pennsylvania State University); Partners: Arnold and Belma Steinberg Medical Simulation Centre; Groupe de Recherche Inter-universitaire en Tutoriels Intelligents; LearnLab Pittsburgh Science of Learning Center; The Centre for Medical Education; The Health Sciences Education and Research Commons; Reseau Reussite Montreal; The Computer Research Institute; and Rocky View Schools; Social Sciences and Humanities Research Council (SSHRC) Partnership Grant:
    "Learning Across the Disciplines: Supporting Technology Rich Learning Across Disciplines"

Awarded letter of intent (LOI): $20,000 CAD (Year: 2011-2012)

12. Poth, C. (University of Alberta, Principal Investigator), Co-Investigators: Miller, T. (University of New Brunswick), Daniels, L. (University of Alberta); Collaborators: **Leighton, J.P.,** Rogers, W.T. (University of Alberta), Renaud, R.
(University of Manitoba); Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant:
    "Examining beginning teachers' orientations to assessment: A quasi-experimental mixed methods intervention study"

Awarded: $24,322 CAD (Year: 2011-2012)

13. **Leighton, J.P**. (Principal/Sole Investigator); Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant:
    "The Effects of Attitude Towards Standardized Testing on Learner Disengagement and the Intention to Drop Out of High School"

Awarded: $110,010 CAD (Years: 2011-2014)

14. **Leighton, J.P.** (Editor-in-Chief; Course Release Stipend); National Council on Measurement in Education (NCME):
    "Educational Measurement: Issues and Practice (EM:IP)"

Awarded: $6,000 USD (Year: 2010)

15. Lajoie, S. (McGill University, Principal Investigator), Co-Investigators: Azevedo, R., Lachapelle, K., Muis, K., Wiseman, J. (McGill), Hmelo-Silver, C. (State University of New Jersey, Rutgers), **Leighton, J.** (University of Alberta), Chi, M., van Lehn, K. (Arizona State), Shute, V. (Florida State), Pekrun, R. (Ludwig-Maximilians Universitat Munchen), Moreno, R. (University of New Mexico), Frasson, C. (University of Montreal), Calvos, R. (University of Sydney), Lester, J. (North Carolina State), Jang, E. (University of Toronto), & Stupnisky, R. (University of North Dakota); Social Sciences and Humanities Research Council of Canada (SSHRC) Major Collaborative Research Initiative (MCRI):
    "Technology Rich Learning Environments: Supporting Learning Across Disciplines"

Awarded letter of intent (LOI): $20,000 CAD (Year: 2010-2011)

16. **Leighton, J.P**. (Principal/Sole Investigator); Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant:
    "Investigating Think-Aloud Verbal Reports as Measures of Examinees' Response Processes in Educational Measurement"

Awarded: $162,154 CAD (Years: 2007-2010)

17. Poth, C. (University of Alberta, Principal Investigator), Co-Investigators: Miller, T. (University of New Brunswick), Daniels, L. (University of Alberta); Collaborators: **Leighton, J.P.,** Rogers, W.T. (University of Alberta); Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant:
    "Examining factors associated with beginning teachers' new orientations to assessment: A mixed-methods dual-site intervention study"

Awarded: $10,000 4A (Year: 2009-2010)

18. Anderson, G.J. (Principal Investigator), & **Leighton, J.P**. (Co-Investigator); Social Sciences and Humanities Research Council of Canada (SSHRC) research development initiatives (RDI) grant:
    "Human Perception in the Use of Economic Rules: A Cognitive Political Economy Approach"

Awarded: $33,500 CAD (Years: 2007-2009)

19. **Leighton, J.P**. (Principal Investigator); Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant:
    "Using Students' Task Interpretations to Improve Higher-Level Thinking Tasks"

Awarded: $141,417 CAD (Years: 2003 – 2006)

20. Norris, S.P. (Principal Investigator), Co-investigators: Armour, M. A, Barker, S., Beamish, J.R., Davis, B.A., de Vries, G., Geelan, D.R., Gustafson, B.J., Hoddinott, J., **Leighton, J.P**., Li, M.M.Y., Mahaffy, P.G., Martin, B.E., Meldrum, A.A., Phillips, L.M., Pimm, D.J., Pinfold, J., Simmt, E., Sutherland, B.; Natural Sciences and Engineering Research Council of Canada (NSERC) CRYSTAL research grant:
    "Understanding and Reasoning in Science and Mathematics"

Awarded: $1,150,000 CAD (Years: 2005-2010)

21. Gierl, M.J. (Principal Investigator), & **Leighton, J.P**. (Co-investigator); College Entrance Examination Board (College Board) research grant, USA:
    "Identifying Cognitive Dimensions that Affect Student Performance on the New SAT: Implications for Theory and Practice"

Awarded: $150,000 USD (180,000 CAD) (Years: 2005-2007)

22**. Leighton, J.P.** (Principal Investigator) & Boechler, P. (Co-investigator); Social Sciences and Humanities Research Council of Canada (SSHRC) & Canadian Education Statistics Council (CESC) education research initiative grant:
    "Using Multivariate Statistics to Identify the Relationship Between Profiles of Students' Academic Skills and the Underlying Trait Dimensions Measured in Large-Scale Assessments"

Awarded: $59,547 CAD (Years: 2003 – 2005)

23. **Leighton, J. P.** (Principal/Sole Investigator); Social Sciences and Humanities Research Council of

Canada (SSHRC) postdoctoral research stipend:

"The Interaction Between Task and Human Variables in Multi-Dimensional Thinking"

Awarded: $5,000 CAD (Years: 1999 – 2001)

INTERNAL RESEARCH/OPERATING GRANTS: Total Amount Awarded to Date: $86,357.43 CAD

1. **Leighton, J.P.** (Principal Investigator); Faculty of Education (Support for the Advancement of Scholarship [SAS] Grant), University of Alberta.
   "The Effects of Cognitive Ability, Motivation and Perception of Interview on the Validity of Think Aloud Interview Data"

Awarded: 6968.77 (Year: 2017-2018)

2. Harley, J. (Principal Investigator), Cutumisu, M. & **Leighton, J.P.** (Co-Investigators); Daniels, L., Welch, J., & Gierl, M. (Collaborators); Faculty of Education (Support for the Advancement of Scholarship [SAS] Grant), University of Alberta.
   "Examining Achievement Emotions Across Test-Taking Environments: Does Environment Influence Affect?"

Awarded: 6,974.66 (Year: 2016-2017)

3. Boechler, P. (Principal Investigator), **Leighton, J.P.** (Co-Investigator); University of Alberta, Internal - Vice-President Research (VPR) SSHRC Funds:
   "Cognitive Skill Assessment Using Virtual Environments: Improving the Ecological Validity of Testing Contexts"

Awarded: 10,000 (Year: 2014-2016)

4. **Leighton, J.P**. (Principal Investigator); University of Alberta, Vice-President Information Technology Grant:
   "Mobile Learning Research Project with Apple Canada**"**

Awarded: $5,000 (Year: 2012]

5. Boechler, P. (Principal Investigator), Stroulia, E., Carbonaro, M., **Leighton, J.P.,** & Gierl, M.J. (Co-Investigators); University of Alberta, Teaching and Learning Enhancement Fund (TLEF) grant:
   "Using Virtual Environments for an Interprofessional Communications Skills Instructional Program for Health Science Education"

Awarded: 43,314 (Years: 2009-2011)

6. **Leighton, J. P**. (Principal Investigator); Humanities, Fine Arts and Social Sciences Research (HFASSR), University of Alberta operating grant:

Awarded: $5,000 CAD (Year: 2003)

7. **Leighton, J. P.** (Principal Investigator); Special Capital Equipment Fund (EFF), University of Alberta equipment grant:

Awarded: $5,100 CAD (Year: 2002)

8. **Leighton, J. P.** (Principal Investigator); Support for Advancement of Scholarship (SAS), Faculty of Education, University of Alberta:

Awarded: Approx. $4,000 CAD (Year: 2002)

INTERNAL TRAVEL GRANTS: Total Amount Awarded to Date: $3200 CAD

1. **Leighton, J.P.** – Killam Research Fund (Social Sciences, Humanities, Fine Arts) Cornerstones Grant Program, University of Alberta travel grant:

Awarded: $1600 CAD (Year: 2011)

2. **Leighton, J. P.** – Humanities, Fine Arts and Social Sciences Research (HFASSR), University of Alberta travel grant: Awarded: $800 CAD (Year: 2003)

3. **Leighton, J. P.** – Humanities, Fine Arts and Social Sciences Research (HFASSR), University of Alberta travel grant: Awarded: $800 CAD (Year: 2002)

RESEARCH AWARDS, RECOGNITIONS, ACADEMIC SCHOLARSHIPS & PRIZES: Total Awarded to date: $200,550 CAD

1**. International Academy of Education (IAE), July 24, 2025, Fellow:**

The Academy comprises 60 Fellows, including scholars from many parts of the world including the Global South. The general aim of the International Academy of Education is to foster scholarly excellence in all fields of education. Towards this end, the Academy provides timely syntheses of research-based evidence of international importance. The Academy also provides critiques of research, its evidentiary basis, and its application to policy.

2. **American Educational Research Association (AERA), 2017 TICL (Technology, Instruction, Cognition & Learning) SIG, Outstanding International Research Collaboration Award:**

This award recognizes international research collaborators who make substantial scholarly contributions to the intersection of the four disciplines: Technology, Instruction, Cognition and Learning. This award was given to the Learning Across Educational Disciplines (LEADs) team of theme leaders (Drs. Azevedo, **Leighton**, & Pekrun) and researchers, led by Dr. Susanne Lajoie (McGill) and funded by our SSHRC Partnership Grant. (Year: 2017)

3. **American Educational Research Association (AERA)**, **Division D (Educational Measurement & Research Methodology); 2009 Significant Contribution to Educational Measurement and Research Methodology:**

This award recognizes published research that represents a significant advancement in the theory and practice of educational measurement and research methodology. The following edited book was the basis of the award: Leighton, J.P. & Gierl, M.J. (Eds.). (2007). *Cognitive diagnostic assessment for education. Theory and applications.* Cambridge, MA: Cambridge University Press. (Pages: 371).
Awarded: Plaque and 1000 USD (1200 CAD) (Year: 2009).

4. **Canadian Council on Learning (CCL)** MINERVA Scholar, Ottawa, Canada:

Selected to be part of a national forum through which the research of prominent Canadian learning researchers is shared with Canadians citizens in centrally located public venues, other researchers and academics in universities and/or colleges, and media outlets. Public lectures were podcasted on CCL's website. Production of invited paper on topic related to public lectures prepared for a special May 2008 issue of *the Journal of Applied Research on Learning* (Years: 2007-2008).

5. Canadian Centre for Research on Literacy Research Fellowship; Faculty of Education, University of Alberta:

Awarded: Approx. $12,000 CAD (Years: 2007-2008).

6. Coutts-Clarke Research Fellowship; Faculty of Education, University of Alberta:

Awarded: Approx. $10,000 CAD (Years: 2005-2006).

7. Social Sciences and Humanities Research Council of Canada (SSHRC) postdoctoral fellowship:

Awarded: $51,000 CAD (Years: 1999 – 2001).

8. Social Sciences and Humanities Research Council of Canada (SSHRC) doctoral fellowship:

Awarded: $64,000 CAD (Years: 1995 – 1999)

9. Walter H. Johns Graduate Fellowship; University of Alberta tuition fellowship:

Awarded: $20,000 CAD (Years: 1993 – 1999)

10. Mary Louise Imrie Graduate Award; University of Alberta graduate travel award:
Awarded: $500 CAD (Year: 1999)

11. Natural Sciences and Engineering Research Council of Canada (NSERC) postgraduate (master's) scholarship:
Awarded: $32,000 CAD (Years: 1993 – 1995)

12. J. Gordin Kaplan Graduate Award; University of Alberta graduate travel award:
Awarded: $300 CAD (Year: 1995)

13. Natural Sciences and Engineering Research Council of Canada (NSERC) undergraduate student research award:
Awarded: $3,200 CAD (Year: 1993)

14. Natural Sciences and Engineering Research Council of Canada (NSERC) undergraduate student research award:
Awarded: $3,200 CAD (Year: 1992)

15. Alexander Rutherford Provincial Scholarship; Alberta Heritage Scholarship Fund, honour academic standing in Grades 10, 11, and 12 award:
Awarded: $3,000 CAD (Year: 1989)

16. Edmonton Public Schools Board of Trustees Award:
Awarded: $150 CAD (Year: 1989)

PUBLICATIONS

- **Authored Book/Monograph (Refereed) [3]**

Leighton, J.P. (2023). *Leveraging Socio-Emotional Assessment to Foster Children's Human Rights.* Part of the Student Assessment for Educators (Book Series Editor - J. McMillan). Oxfordshire, UK: Routledge (Taylor & Francis Group).

Leighton, J.P. (2017). *Using Think-Aloud Interviews and Cognitive Labs in Educational Research*. Oxford, UK: Oxford University Press.

Leighton, J.P. & Gierl, M.J. (2011). *The learning sciences in educational assessment*. Cambridge, MA: Cambridge University Press.

- **Edited Books (Refereed) [3]**

Rupp, A.A. & **Leighton, J.P.** (Eds.). (2016). *Handbook of cognition and assessment*. Hoboken, NJ: Wiley-Blackwell.

Leighton, J.P. & Gierl, M.J. (Eds.). (2007). *Cognitive diagnostic assessment for education. Theory and applications.* Cambridge, MA: Cambridge University Press.

Leighton, J. P. & Sternberg, R. J. (Eds.). (2004). *The nature of reasoning*. Cambridge, MA: Cambridge University Press.

- **Book Chapters/Encyclopaedia Entries (Refereed) [35]**

Leighton, J.P. (2023). Universal design for learning (UDL) to enhance freedom of action and expression in teacher education. In P. Hohaus and J-F. Heeren (Eds.), **The future of teacher education,** (pp. 311-338). Brill Publishers. Boston, MA.

Hanson, W. E., **Leighton, J. P.,** Donaldson, S. I., Oakland, T., Terjesen, M.D., & Shealy, C. N. (2023). Assessment: The power and potential of psychology testing, educational measurement and program evaluation around the world. In C. N. Shealy, M. Bullock, & S. Kapadia. (Eds.), *Going global: How psychology and psychologists can meet a world of need*. Washington, DC: American Psychological Association (APA).

Leighton, J.P. (2022). Affective phenomena in learning: The good, the bad and the ugly. In M-C. Shanahan, B. Kim, K. Koh, A. P. Preciado-Babb, M. A. Takeuchi (Eds.), *The Learning Sciences in Conversation: Theories, Methodologies, and Boundary Spaces* (SECTION 3: Cognition) (pp. 169-180). Routledge.

Duquette, C., Gibson, L., & **Leighton, J.** (2022). *Important ou non ? Comparaison de l'importance historique accordée aux événements de l'histoire dite nationale par des enseignants francophones et anglophones du Canada, dans Larouche*. In M-C. Larouche, F. Bouvier, and P-C. Fillion (Eds.), *Tensions dans l'enseignement des sciences sociales sur les questions nationales: vues internationals* (pp. 57-78). Septentrion: Montreal, Quebec.

Leighton, J.P. (2022). *Not all that counts is safe for counting: Barriers to collecting learning data for assessment purposes.* In R. Lissitz and H. Jiao (Eds.), Enhancing effective instruction and learning using assessment data (pp. 187-213). Information Age Publishing.

Leighton, J.P. (2022). Cognitive Diagnostic Testing. In S. Brookhart (Ed.), Routledge Resources Online: Education (Assessment). https://doi.org/10.4324/9781138609877-REE198-1

Guo, Q., Cui, Y., **Leighton, J.P.,** & Chu, M-W. (2021). Sequence clustering techniques in educational data mining. In M. Khosrow-Pour (Ed.), *Handbook of Research on Modern Educational Technologies, Applications, and Management,* Vol 1 (68–84.). Hershey, PA: IGI Global. DOI: 10.4018/978-1-7998-3476-2

Leighton, J.P. (2019). *Cognitive diagnosis is not enough: The challenge of measuring learning with classroom assessments.* In S.M. Brookhart & J.H. McMillan (Eds.), Classroom assessment and educational measurement (pp. 27-45). NCME Book Series. Routledge.

Padilla, J-L., & **Leighton, J.P.** (2017). Cognitive interviewing and think aloud methods. In B. Zumbo & A.M. Hubley (Eds.), *Understanding and investigating response processes in validation research* (pp. 211-228). Springer Press.

Leighton, J.P., Tang, W. & Guo, Q. (2017). Response Processes and Validity Evidence: Controlling for Emotions in Think Aloud Interviews. In B. Zumbo & A.M. Hubley (Eds.), *Understanding and investigating response processes in validation research* (pp. 137-157). Springer Press.

Leighton, J.P. (2017). Collecting, analyzing and interpreting verbal response process data. In K. Ercikan & J. Pellegrino (Eds.), National Council on Measurement in Education (NCME) Book Series - *Validation of Score Meaning in the Next Generation of Assessments* (pp. 25-38). Routledge.

Rupp, A. A. & **Leighton, J.P.** (2016). Introduction to handbook. In A.A. Rupp & J.P. Leighton (Eds)., *Handbook of cognition and assessment* (pp. 1-11). Hoboken, NJ: Wiley-Blackwell.

Leighton, J.P., & Rupp, A.A. (2016). Synthesis and conclusion. In A.A. Rupp & J.P. Leighton (Eds)., *Handbook of cognition and assessment* (pp. 580-587). Hoboken, NJ: Wiley-Blackwell.

Chu, M-W. & **Leighton, J.P.** (2016). Using errors to enhance learning and feedback in computer programming. In S. Tettegah & M. McCreery (Eds)., *Emotions and technology: Communication of feelings for, with and through digital media – Volume I: Emotions, Learning, and Technology* (pp. 89-117). Elsevier Publishing.

Leighton, J.P., Chu, M-W., & Seitz, P. (2013). Cognitive Diagnostic assessment and the learning errors and formative feedback (LEAFF) model. In R. Lissitz (Ed.), *Informing the Practice of Teaching Using Formative and Interim Assessment: A Systems Approach* (pp. 183-207). Information Age Publishing.

Leighton, J.P. Learning sciences, cognitive models, and automatic item generation. (2013). In M.J. Gierl & T. Haladyna (Eds.), *Automatic item generation: Theory and practice* (pp. 121-135). Routledge.

Leighton, J.P. & Sternberg, R.J. (2012). Reasoning and problem solving. In A. Healy & R. Proctor (Eds.), *Handbook of psychology* (2nd ed.), Vol. 4 Experimental psychology (pp. 631-659). New York: Wiley.

Leighton, J.P. (2012). Large-scale assessment design and development for the measurement of student cognition. In M. Simon, K. Ercikan, & M. Rousseau (Eds.), *Improving large scale assessment in education: Theory, issues, and practice* (pp. 13-26). Taylor & Francis/Routledge.

Leighton, J.P. (2011). A cognitive model of higher order thinking skills: Implications for assessment. In G. Schraw & D.H. Robinson (Eds.), *Current perspectives on cognition, learning, and instruction: Assessment of higher order thinking skills* (pp. 151-181). Charlotte, NC: Information Age Publishing.

Leighton, J.P. (2010). Internal validity. In N. J. Salkind (Ed.), *The encyclopedia of research design (*pp. 619-622). Thousand Oakes, CA: Sage Publications.

Leighton, J.P. (2010). External validity. In N. J. Salkind (Ed.), *The encyclopedia of research design* (pp. 466-469). Thousand Oakes, CA: Sage Publications.

Leighton, J.P., & Babenko, O.I. (2010). Problem solving. In Irving B. Weiner & W. Edward Craighead (Eds.), *The Corsini encyclopedia of psychology* (4th ed, Vol. 3.), (pp. 1293-1294). John Wiley & Sons.

Leighton, J.P. (2009). Cognitive biases. In A.J. Mills, G. Durepos, & E. Wiebe (Eds.), *Encyclopedia of case study research* (pp. 158-161). Sage Publications.

Leighton, J.P. (2008). Mistaken impressions of large-scale cognitive diagnostic testing. In R. Phelps (Ed.). *Correcting fallacies about educational and psychological testing* (pp. 219-246). Washington DC: American Psychological Association (APA).

Leighton, J.P. (2008). Validity. In N.J. Salkind (Ed.), *Encyclopedia of educational psychology (Vol. 2*, (pp. 995-1000). Thousand Oakes, CA: Sage.

Leighton, J.P. (2007). Increasing adaptive expertise: The next frontier in human capital development. In G. Picot, R. Saunders, & A. Sweetman (Eds.), *Fulfilling potential, creating success: Perspectives on human capital development* (pp. 101-141). Montreal, Quebec: McGill-Queen's University Press.

Leighton, J. P., & Gierl, M.J. (2007). Why cognitive diagnostic assessment? In J.P. Leighton & M.J. Gierl (Eds.), *Cognitive diagnostic assessment for education. Theory and applications* (pp.3-18). Cambridge, MA: Cambridge University Press.

Leighton, J.P., & Gierl, M.J. (2007). Verbal reports as data for cognitive diagnostic assessment. In J.P. Leighton & M.J. Gierl (Eds.), *Cognitive diagnostic assessment for education. Theory and applications* (pp. 146-172). Cambridge, MA: Cambridge University Press.

Gierl, M.J., **Leighton, J.P**., Hunka, S.M. (2007). Using the attribute hierarchy method to make diagnostic inferences about examinees' cognitive skills. In J.P. Leighton & M.J. Gierl (Eds.), *Cognitive diagnostic assessment for education. Theory and applications* (pp. 242-274). Cambridge, MA: Cambridge University Press.

Gierl, M.J., & **Leighton, J.P**. (2007). Directions for future research in cognitive diagnostic assessment. In J.P. Leighton & M.J. Gierl (Eds.), *Cognitive diagnostic assessment for education. Theory and applications* (pp. 341-351). Cambridge, MA: Cambridge University Press.

Norris, S.P., **Leighton, J.P**. & Phillips, L.M. (2007). What's at stake in knowing the content and capabilities of children's minds? Reprinted in R. Curren (Ed.), *Blackwell philosophy anthologies: Philosophy of education* (pp. 477-490). Oxford, UK: Blackwell.

Gierl, M.J., & **Leighton, J.P**. (2007). Linking cognitively-based models and psychometric methods. In C.R. Rao & S. Sinharay (Eds.), *Handbook of statistics 26: Psychometrics* (pp. 1103-1106). Elsevier B.V.

Leighton, J. P. (2004). Defining and describing reasoning. In J. P. Leighton & R. J. Sternberg (Eds.), *The nature of reasoning* (pp. 3-11). Cambridge, MA: Cambridge University Press.

Leighton, J. P. (2004). The assessment of logical reasoning. In J. P. Leighton & R. J. Sternberg (Eds.), *The nature of reasoning* (pp. 291-312). Cambridge, MA: Cambridge University Press.

Leighton, J. P., & Sternberg, R. J. (2003). Reasoning and problem solving. In A. F. Healy & R. W. Proctor (Volume Eds.), *Experimental psychology* (pp. 623-648). Volume 4 in I. B. Weiner (Editor-in-Chief) *Handbook of psychology*. New York: Wiley.

- **Invited Scholarly Article(s) [2]**

Lajoie, S.P., Pekrun, R., Azevedo, R., & **Leighton, J.P.** (2020). Understanding and measuring emotions in technology-rich learning environments. *Learning and Instruction*, DOI: https://doi.org/10.1016/j.learninstruc.2019.101272

Leighton, J.P. (2009). Can you learn how to learn for life? Components from expert learning research. *Journal of Applied Research on Learning, 2* (special issue), 1-14.

- **Refereed Scholarly Articles [53]**

Leighton, J.P. (In Press). Évaluation du préjudice causé aux apprenants les plus vulnérables pendant la pandémie de COVID-19. (English translation: Assessment of the harm caused to the most vulnerable learners during the COVID-19 pandemic). *Orée: Journal of Human and Social Sciences (formerly - Revue de l'Université de Moncton.*

Song, Y., Guo, Q., Cui, Y., **Leighton, J.P.,** & Cutumisu, M. (2026). A deep learning approach to cognitive diagnostic modeling: Dvae CDM. *Behaviormetrika.* https://doi.org/10.1007/s41237-026-00320-w

Cui, Y., Liu, X., Chen, F., Lutsyk-King, A., **Leighton, J.P.,** & Cutumisu, M. (2025). Assessing critical thinking skills in data literacy: A digital performance assessment. Special Issue of *Zeitschrift für Pädagogik (ZfPäd) (Journal of Pedagogy)*, 2, 187-211. DOI: 10.3262/zp2502187

Lutsyk-King, A., & **Leighton, J.P.** (2024). The conscious experience of thinking aloud: Are positive feelings associated with better think-aloud performance? *Psychology of Consciousness: Theory, Research, and Practice.* Advance online publication. https://doi.org/10.1037/cns0000410

Leighton J.P. (2024) Freedom to think aloud. Frontiers in Education (Academic Freedom: Embracing Diverse Voices) 9:1518075. doi: 10.3389/feduc.2024.1518075

Chen, F., Cui, Y., Lutsyk-King, A., Gao, Y., Liu, X., Cutumisu, M., & **Leighton, J. P.** (2024). Validating a novel digital performance-based assessment of data literacy: Psychometric and eye-tracking analyses. *Education and Information Technologies*, 29, 9417-9444. https://doi.org/10.1007/s10639-023-12177-7

Cui, Y., Chen, F., Lutsyk, A., **Leighton, J.P.,** & Cutumisu, M. (2023). Data literacy assessments: A systematic literature review. *Assessment in Education: Principles, Policy and Practice, 30(1),* 76-96. https://doi.org/10.1080/0969594X.2023.2182737

Pan, Z., Cui, Y., **Leighton, J.P.,** & Cutumisu, M. (2023). Insights into computational thinking from think-aloud interviews: A systematic review. *Applied Cognitive Psychology, 1– 25*. https://doi.org/10.1002/acp.4029

Gibson, L., Duquette, C., & **Leighton, J.P.** (2022). What events in Canadian history are most significant? A survey of history teachers. *The Canadian Historical Review, 103(3),* 408-442. https://doi.org/10.3138/chr.2021-0010

Leighton, J.P. (2022). A Study of Teacher Candidates' Views on Children's Human Rights in Canada, *The International Journal of Children's Rights*, *30*(1), 146-172. doi: https://doi.org/10.1163/15718182-30010006

Leighton, J.P., Guo, Q. & Tang, W. (2022). Measuring preservice teachers' attitudes towards mistakes in learning environments. *Learning Environments Research,* 25**,** 287–304. https://doi.org/10.1007/s10984-021-09362-1

Aranas, K. **& Leighton, J.P.** (2021). Dimensions of physical activity as related to child Attention-Deficit/Hyperactivity Disorder symptoms and impairment. *Clinical Child Psychology and Psychiatry*. Doi: 10.1177/13591045211058338

Liu, Y. & **Leighton, J.P.** (2021). Parental self-efficacy in helping children succeed in school favors math achievement. *Frontiers in Education (Educational Psychology).* doi: 10.3389/feduc.2021.657722

Lane, S., Hoang, J., **Leighton, J.P.,** & Rissanen, A. (2021). Engagement and satisfaction: Mixed-method analysis of blended learning in the sciences. *Canadian Journal of Science, Mathematics, and Technology Education, 21,* 100-122.

Leighton J.P., Cui, Y. & Cutumisu M. (2021) Key information processes for thinking critically in data-rich environments. *Frontiers in Education (Educational Psychology), 6,* 561847. doi: 10.3389/feduc.2021.561847

Leighton, J.P. (2021). Rethinking think-alouds: The often-problematic collection of response process data. Applied Measurement in Education, 34(1), 61-74, DOI: 10.1080/08957347.2020.1835911

Leighton, J.P. (2020). On barriers to accessing children's voices in school-based research. *Canadian Journal of Children's Rights, 7(1),* 164-193.

Harley, J.M., Lou, N.M., Liu, Y., Cutumisu, M., Daniels, M., **Leighton, J. P.,** & Nadon, L. (2021). University students' negative emotions in a computer-based exam: The roles of trait test-emotion, prior test-taking methods, and gender. *Assessment and Evaluation in Higher Education, 46(6),* 956-972. DOI: 10.1080/02602938.2020.1836123

Cui, Y., Guo, Q., **Leighton, J.P.,** & Chu, M-W. (2020). Log data analysis with ANFIS: A fuzzy neural network approach. *International Journal of Testing, 20(1),* 78-96. doi.org/10.1080/15305058.2018.1551225

Leighton, J.P. (2019). Students' interpretation of formative feedback: Three claims for why we know so little about something so important. *Journal of Educational Measurement (Special Issue on Classroom Assessment), 56,* 793-814.DOI: 10.1111

Zlatkin-Troitschanskaia, O., Kuhn, C., Brückner, S. & **Leighton, J.P.** (2019). Evaluating a technology-based assessment (TBA) to measure teachers' action-related and reflective Skills. *International Journal of Testing, 19,* 148-171. 10.1080/15305058.2019.1586377.

Leighton, J.P. (2019). The risk return tradeoff: Performance assessments and cognitive validation of inferences. *British Journal of Educational Psychology, 89,* 441-455. doi.org/10.1111/bjep.12271

Chu, M-W., & **Leighton, J.P.** (2019). Enhancing digital simulated laboratory assessments: A test of pre-laboratory activities with the Learning Error and Formative Feedback model. *Journal of Science Education and Technology (JOST),* 28, 251-264. doi.org/10.1007/s10956-018-9763-z

Leighton, J.P., Guo, Q., Chu, M-W., & Tang, W. (2018). A Pedagogical Alliance for Academic Achievement: Socio-Emotional Effects on Assessment Outcomes. *Educational Assessment, 23(1),* 1-23.

Leighton, J.P. & Bustos Gomez, M.C. (2018). A Pedagogical Alliance for Trust, Wellbeing and the Identification of Errors for Learning and Formative Assessment. *Educational Psychology: An International Journal of Experimental Educational Psychology, 38(3)*, 381-406.

Leighton, J.P., Tang, W. & Guo, Q. (2018). Undergraduate Students' Attitudes Towards Mistakes in Learning and Academic Achievement. *Assessment and Evaluation in Higher Education, 43(4),* 612-628.

Leighton, J.P., Seitz, P., Chu, M-W., & Gomez Bustos, M.C. (2016). Operationalizing the role of trust for student wellbeing, learning and achievement*. International Journal of Wellbeing, 6(2),* 57-79.

Leighton, J.P., & Chu, M-W. (2016). First among equals: Hybridization of cognitive diagnostic assessment and evidence-centered game design. *International Journal of Testing, 16,* 164-180.

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Leighton, J.P. (2008). Where's the psychology? A Commentary on "Unique Characteristics of Diagnostic Classification Models: A Comprehensive Review of the Current State-of-the-Art." *Measurement: Interdisciplinary Research and Perspective, 6,* 272-275*.*

Leighton, J.P. & Gierl, M.J. (2007). Defining and evaluating models of cognition used in educational measurement to make inferences about examinees' thinking processes. *Educational Measurement: Issues and Practice, 26,* 3-16*.*

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Sternberg, R.J., Jarvin, L., **Leighton, J.,** Newman, T., Moon, T., Callahan, C., & Grigorenko, E. (2006). Girls can't do math? The disidentification effect and gifted high school students' math performance. *The Arab Journal for Giftedness and Creativity*, *KACFG*, *1,* 9-32.

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Leighton, J. P., Rogers, W. T., & Maguire, T. O. (1999). Assessment of student problem solving on ill-defined tasks. *Alberta Journal of Educational Research, 45*, 409-427.

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Leighton, J. P. (1995). Opposition to gifted education: An examination of three related factors. *Alberta Gifted and Talented Education, 9*, 26-32.

- **Reviews of Dr. Leighton's Scholarly Books**

Cohen, Y. (2019). Review of The Handbook of Cognition and Assessment; Frameworks, Methodologies, and Applications, Wiley-Blackwell; 2016 (Eds. A.A. Rupp & **J.P. Leighton**). *Assessment in Education: Principles, Policy & Practice, 00*, 00-00. DOI: 10.1080/0969594X.2019.1597679

Kinskey, M. (2018). A Review of Using Think-Aloud Interviews and Cognitive Labs in Educational Research, Oxford University Press, 2017 (**J.P. Leighton**). *The Qualitative Report, 23(3),* 730-732. Retrieved from https://nsuworks.nova.edu/tqr/vol23/iss3/16.

Sandilands, D., Lyons-Thomas, J., Oliveri, M.E., & Barclay McKeown, S. (2013). Book Review - The Learning Sciences in Educational Assessment: The Role of Cognitive Models, Cambridge University Press; 2011 (**J.P. Leighton** & M.J. Gierl). *Alberta Journal of Educational Research, 59(2),* 324-328.

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Jang, E. E. (2008). Review of Cognitive Diagnostic Assessment for Education: Theory and Applications, Cambridge University Press [2007; Eds. **Leighton** & Gierl]. *International Journal of Testing, 8, 290-295.*

Nichols, P.D. & Joldersma, K. (2008). Review of Cognitive Diagnostic Assessment for Education: Theory and Applications, Cambridge University Press [2007; Eds. **Leighton** & Gierl]. *Journal of Educational Measurement, 45, 407-411*.

- **Non-refereed Scholarly Research Modules [1]**

Leighton, J.P., & Lehman, B. (2020). Think-aloud interviews and cognitive labs (Digital ITEMS Module 12). Educational Measurement: Issues and Practice, 39(1), XX-XX. https://ncme.elevate.commpartners.com/

- **Non-refereed Articles/Book Reviews [11]**

Leighton, J.P. (2023). Review of Beach, J.M. (2021). The myths of measurement and meritocracy: Why accountability metrics in higher education are unfair and increase inequality. Rowman and Littlefield. Teachers College Record.

Leighton, J.P. (2020). Review of Mislevy, R.J. (2018). Sociocognitive foundations of educational measurement. New York: Routledge. *Journal of Educational Measurement, 57(1),* 145-151.

Chu, M-W., & **Leighton, J.P.** (November 2013). *Innovation in testing: Stealth assessment of innovative problem-solving skills.* (2013 Bateson Award Winning Paper.) CERA News: The Newsletter of the Canadian Educational Research Association, Fall Issue, 6-11 (2000 words).

Leighton, J.P. (2012). Strategies for getting published in Educational Measurement: Issues and Practice (EM:IP). *National Council on Measurement in Education (NCME) Newsletter, 20(2),* 5-7. (1300 words).

Leighton, J.P. (2010). Review of Sobocan, J., Groarke, L., Johnson, R.H., & Ellet Jr., F.S. (Eds.). (2009). Critical thinking education and assessment: Can higher order thinking be tested? London, Ontario: The Althouse Press. *Informal Logic, 30*, 116-119.

Leighton, J.P. (2010). Review of Stanovich, K.E. (2009). What intelligence tests miss: The psychology of rational thought. *Canadian Psychology/Psychologie Canadienne, 51,* 144-145.

Leighton, J.P. (2008). Review of Measuring the Mind: Conceptual Issues in Contemporary Psychometrics**.** *Journal of Educational Measurement, 45,* 91-93.

Leighton, J.P. & Gokiert, R. J. (2006). Review of Cognitive Interviewing: A Tool for Improving Questionnaire Design. *International Journal of Testing, 6,* 361-365.

Gierl, M. J., & **Leighton, J. P**. (2004). Review of Item Generation for Test Development. *Journal of Educational Measurement, 41*, 69-72.

Rogers, T. W., Gierl, M. J., & **Leighton, J. P.** (2004, May). Some thoughts on best practices for statistical hypothesis testing. *CERA News. The Newsletter of the Canadian Educational Researchers' Association*, 4-7.

Leighton, J. P. (2001). Reasoning strategies and the fundamental reasoning mechanism. *Contemporary Psychology: APA Review of Books, 46*, 407-409.

- **Technical Reports [15]**

Leighton, J.P. (April, 2019). *Think alouds and cognitive labs for next generation NCLEX (NGN) items.* Prepared for the National Council of State Boards of Nursing (NCSBN). University of Alberta, Edmonton, Alberta (32 pages).

Leighton, J.P. (June, 2017). *Summary Report of AICPA Professional Skepticism Task-Force.* Prepared for American Institute of Certified Public Accountants (AICPA). University of Alberta, Edmonton, Alberta (24 pages).

Leighton, J.P. (January, 2017). *Summary Report of Think-Aloud Interviews of Task-Based Simulations: Study 2.* Prepared for American Institute of Certified Public Accountants (AICPA). University of Alberta, Edmonton, Alberta (34 pages).

Leighton, J.P. (December, 2015*). Summary Report of Think-Aloud Interviews of Task-Based Simulations*. Prepared for American Institute of Certified Public Accountants (AICPA). University of Alberta, Edmonton, Alberta (39 pages).

Leighton, J.P., Bustos Gomez, M.C., & Chu, M-W. (September, 2013). *Final Report on Research Project for Suzuki Charter School: Student, Teacher, and Parent Findings.* University of Alberta, Edmonton, Alberta (45 pages).

Leighton, J.P. (February, 2013). *Interim Report #1 on Research Project for Suzuki Charter School: Initial Student Data and Findings.* University of Alberta, Edmonton, Alberta (44 pages).

Leighton, J.P. (March, 2013). *Interim Report #2 on Research Project for Suzuki Charter School: Initial Parent and Teacher Data and Findings.* University of Alberta, Edmonton, Alberta (30 pages).

Gierl, M. J., **Leighton, J. P**., Wang, C., Zhou, Z., Gokiert, R., & Tan, A. (2009). *Validating cognitive models of task performance in algebra on the SAT (*College Board Research Report 2009-3). New York, USA: The College Entrance Examination Board (College Board).

Leighton, J.P. (2006). *Increasing adaptive expertise: The next frontier in human capital development* (pp. 1-46). Technical Document #44357. Canadian Policy Research Networks, School of Policy Studies, Queen's University, and Statistics Canada.

Gierl, M.J., **Leighton, J. P.,** Wang, C., & Tan, X. (2005). *Identifying cognitive dimensions that affect student performance on the new SAT: Evaluating primary skill categories*. Technical Report #2. New York, USA: The College Entrance Examination Board (College Board).

Hunka, S., Gierl, M. J., & **Leighton, J.** (1998, June). *Classification of examinees response patterns and MLE for* θ *and examinee attributes.* Edmonton, AB: Centre for Research in Applied Measurement and Evaluation, University of Alberta. (35 pp.) [This tutorial was programmed in Mathematica 3.0, and includes 20 executable functions.]

Hunka, S., Gierl, M. J., & **Leighton, J.** (1998, May). *Exploring Tatsuoka's rule-space model for test development and analysis: A tutorial.* Edmonton, AB: Centre for Research in Applied Measurement and Evaluation, University of Alberta. (55 pp.) [This tutorial was programmed in Mathematica 3.0, and includes 21 executable functions.]

Leighton, J. P., & Rogers, W. T. (1995). *Report on the summer institute for student assessment in the classroom (SISAC).* Alberta Education, Student Evaluation Branch, Government of Alberta, Canada.

Leighton, J. P., & Rogers, W. T. (1994). *Report on the summer institute for student assessment in the classroom (SISAC).* Alberta Education, Student Evaluation Branch, Government of Alberta, Canada.

Korpan, C. A., Bisanz, G. L., Dukewich, T. L., Robinson, K. M., Bisanz, J., Thibodeau, M. H., Hubbard, K. E., & **Leighton, J. P.** (1994). *Assessing scientific literacy: A taxonomy for classifying questions and knowledge about scientific research* (Technical Report No. 94-1). Edmonton, Alberta: University of Alberta, Centre for Research in Child Development. (ERIC Document Reproduction Service No. ED SE054 604).

- **Editorials (as Editor-in-Chief) for *Educational Measurement: Issues and Practice* (published by Wiley-Blackwell)**

Leighton, J.P. (2010). Editorial. *Educational Measurement: Issues and Practice, 29 (1),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2010). Editorial. *Educational Measurement: Issues and Practice, 29 (2),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2010). Editorial. *Educational Measurement: Issues and Practice, 29 (3),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2010). Editorial. *Educational Measurement: Issues and Practice, 29 (4),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2011). Editorial. *Educational Measurement: Issues and Practice, 30 (1),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2011). Editorial. *Educational Measurement: Issues and Practice, 30 (2),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2011). Editorial. *Educational Measurement: Issues and Practice, 30 (3),* 1. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2011). Editorial. *Educational Measurement: Issues and Practice, 30 (4),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2012). Editorial. *Educational Measurement: Issues and Practice, 31 (1)*, 1. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2012). Editorial. *Educational Measurement: Issues and Practice, 31 (3),* 1-2. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

Leighton, J.P. (2012). Editorial. Educational Measurement: Issues and Practice, 31 (4), 1. Madison, WI, USA: National Council on Measurement in Education (NCME)/Wiley-Blackwell.

- **Professional Blog Posts (Invited)**

Leighton, J.P. (2020, Aug 2). Reflections on expertise, power, and biases in research. Posted on Mindful Measurement (A. Rupp) at https://www.mindfulmeasurement.com/blog/mindful-measurement-examining-expertise-power-and-biases-in-research.

- **Conference Proceedings (refereed)**

Lutsyk-King, A., Cui, Y., Cutumisu, M., Hao, Y., & **Leighton, J.P.** (June, 2022). Assessing data literacy: Cognitive processes and biases in the digital arena. In A. Bassi & G. Schiuma (Eds.), Knowledge drivers for resilience and transformation. Conference Proceedings for 17th International Forum on *Knowledge Asset Dynamics (IFKAD) meeting, Special Track: Knowledge Acquisition at Risk* (pp. 102-117). Arts for Business Institute, LUM University, SUPSI, & Institute of Knowledge Asset Management (IKAM). Lugano, Switzerland.

PUBLIC NATIONAL LECTURE (Invited)

Leighton, J.P. (2007, October). *Cultivating a flexible mind: Can you learn how to learn for life?* Invited to join the Canadian Council on Learning (CCL) Distinguished MINERVA Scholars Program to present lectures in six major cities over two weeks across Canada to the public, specialists in academic settings, and media. Vancouver, Calgary, Toronto, Montreal, & Halifax, CANADA.

ACADEMIC/SCHOLARLY CONFERENCE PRESENTATIONS

- **International Keynote Address (Invited)**

Leighton, J.P. (2016, October). *Response processing in validation arguments*. Keynote presentation at the KoKoHs and Performance Assessment of Learning (PAL) Meeting, Johannes Gutenberg University, Mainz, Germany.

- **National/Provincial Plenary Keynote Address (Invited)**

Leighton, J.P. (2026, Jan 30). *Psychological tools to communicate, connect and collaborate with parents in support of student learning and mental health.* Invited keynote delivered at the Ever Active Shaping the Future Annual Conference, Edmonton, Alberta, CANADA. (Provincial conference)

Leighton, J.P. (2016, May). *Growing the assessment triangle to include explanation*. Invited Presidential Address to the Canadian Education Research Association (CERA) delivered at the Canadian Society for the Study of Education (CSSE), Calgary, Alberta, CANADA. (National conference)

Leighton, J.P. (2007, June). *Literacy for assessment: Cognitive psychology's role in measures of thinking skills*. Invited plenary keynote speaker at the Annual Network Conference of the Canadian Language and Literacy Research Network. Calgary, Alberta, CANADA. (National conference)

- **International/National Presentations (Invited)**

Leighton, J.P., Sachs, J. (Acadia), & St-Hilaire, M. (Sherbrooke). (Jan 31, 2026). Free thought and expression in the modern university. Panel moderated by Kristopher Kinsinger (SV Law). Law and Freedom 2026 Conference hosted by Runnymede Society. Toronto, ON, CANADA.

Leighton, J.P. (2024, November 8). The learning errors and formative feedback (LEAFF) model. Online presentation delivered for meeting of EARLI – Centre for Excellence in Research on *Errors as Springboard for Learning: Towards a Theoretical Framework and Educational Implications.* Chaired by Professor Maria Tulis. Leuven, Belgium.

Leighton, J.P. (2022, January 27-28). Without Recognition of Student (Children's) Rights, Equity in Assessment Falls Flat and Short [Paper presentation]. *Advancing Assessment and Evaluation Virtual Conference: Queen's University Assessment and Evaluation Group (AEG) and Educational Testing Services (ETS),* Kingston, Ontario, Canada.

Clark, D., Kim, B., **Leighton, J.P.,** Adams, J., Ehret, C., Slotta, J., Sinclair, N., and Laferrière, T. (2020, May-June). What drives Learning Sciences research in Canada? Symposium panel organized by D. Clark and B. Kim [SIG Learning Sciences] for the Canadian Society for the Study of Education Annual Conference, London, ON, Canada. https://csse-scee.ca/wp-content/uploads/2020/03/CSSE-Program-Draft-Mar-1.pdf (Conference cancelled)

Leighton, J.P. (2019, November 7-8). *Not all that counts is safe for counting: Empirical barriers to collecting learning data for assessment purposes.* Presentation delivered at the 19th Annual Maryland Assessment Research Centre (MARC) Conference (Enhancing Effective Instruction and Learning Using Assessment Data). Maryland, USA.

Leighton, J.P. (2017, March). *What's in a name? Why think alouds and cognitive labs are not quite the same.* Webinar presentation delivered to Educational Testing Service (ETS) Knowledge Translation Series. Princeton, New Jersey, USA.

Leighton, J.P. (2016, February). *Revisiting and growing the assessment triangle for the 21st century.* Invited presentation delivered to the Melbourne Graduate School of Education, University of Melbourne, Melbourne, Australia.

Chu, M-W., & **Leighton, J.P.** (2014, May). *Investigating Learning Errors and Formative Feedback (LEAFF) Model using Computer-Simulated Laboratory Assessments.* Poster presented at the annual SSHRC-LEADS Emerging Scholars Consortium. McGill University, Montreal, QC, CANADA.

Leighton, J.P. (2014, March). *Creating Classroom Conditions for Higher-Order Thinking and Informative Assessment: The Learning Errors and Formative Feedback (LEAFF) Model.* Presentation delivered in Department of Educational and Counselling Psychology, and Special Education (ECPS), Faculty of Education, University of British Columbia.

Chu, M-W., & **Leighton, J.P.** (2014, April). *Science computer simulated laboratory assessment.* Paper presented on behalf of the Canadian Society for Studies in Education (CSSE) and Canadian Association for Educational Psychology (CAEP) Invited Symposium (Organizer: D. Buzza & G. Harrison) on Technology and the 21st Century Learner at the annual meeting of the American Educational Research Association (AERA), Philadelphia, PA, USA.

Leighton, J.P. (2013, August). *Using cognitive psychology and the learning sciences to inform test development and validation.* Presentation delivered at ACT (formerly known as American College Testing prior to 1996). Iowa City, IA, USA.

Leighton, J.P. (2013, April). *Preparation, Perspiration, and Progress: Thoughts on Building a Career in Measurement or Research Methodology*. Panelist for Division D Graduate Student Seminar at annual meeting of the American Educational Research Association (AERA), San Francisco, CA, USA.

Leighton, J.P. (2012, June). *Moving education forward in the 21st century: Intellectual ingenuity and transformative collaborative learning experiences.* Invited colloquium at the Department of Educational and Counselling Psychology, faculty of Education, McGill University, Montreal, Canada.

Leighton, J.P., & Chu, M-W. (2012, June). *Review of innovations in the science of assessment.* Invited presentation for the first annual meeting of the Partnership Grant – Learning Environments Across Disciplines (LEADs), McGill University, Montreal, Quebec.

Leighton, J.P. (2012, April). *Thematic orientations of and successful publication strategies for key measurement journals.* Invited presentation in moderated panel delivered as editor-in-chief of Educational Measurement: Issues and Practice at the Annual meeting of the National Council on Measurement in Education, Vancouver, B.C., CANADA.

Leighton, J.P., Chu, M-W., & Seitz, P. (2011, October). *Cognitive Diagnostic Assessment and the Learning Errors and Formative Feedback (LEAFF) Model.* Presentation delivered for the 11th Annual MARCES/MSDE Event on Informing the Practice of Teaching Using Formative and Interim Assessment: A Systems Approach. University of Maryland, College Park, USA

Leighton, J.P. (2011, April). *Reinforcing the connections between diagnostic modeling in educational research and the public interest.* Division D (Educational Measurement & Research Methodology) Graduate Student Committee Fireside Chat. Presentation delivered at the annual meeting of American Educational Research Association (AERA), New Orleans, LA, USA.

Leighton, J. P. (2010, October). *Using verbal reports as a source of data in validity studies.* Colloquium given at Educational Testing Service (ETS) in Princeton, New Jersey, USA.

Leighton, J.P., & Gierl, M.J. (2010, May). *The use of cognitive models in assessment*. Invited presentation delivered at the Annual meeting of the American Educational Research Association, Division D (Educational Measurement & Research Methodology), Business Meeting and Luncheon, Denver, Colorado, USA.

Leighton, J.P., & Gierl, M.J. (2008, June). *Cognitive diagnostic assessment for education: Theory and applications*. Invited address delivered at the annual meeting of the Psychometric Society, Durham, New Hampshire, USA.

Leighton, J.P. (2006, January). *Increasing adaptive expertise: The next frontier in human capital development*. Paper presented at the conference on An Integrated Approach to Human Capital Development sponsored by the Canadian Policy Research Networks, Queen's University, and Statistics Canada, Ottawa, CANADA.

Leighton, J.P. (2005, May). *Investigating the statistical and cognitive dimensions in large-scale science assessments. A summary of procedures.* Paper presented at the third annual conference on Learning Outcomes and Transitions sponsored by the Canadian Education Statistics Council (CESC) and Social Sciences and Humanities Research Council of Canada (SSHRC), Ottawa, CANADA.

Leighton, J. P. (2004, May). *An update on understanding test dimensionality in large-scale assessments.* Presentation in symposium (Lessons from 2002/2003 Research) at the second annual conference on Learning Outcomes and Transitions sponsored by the Canadian Education Statistics Council (CESC) and Social Sciences and Humanities Research Council of Canada (SSHRC), Quebec City, CANADA.

Leighton, J. P. (2004, February). *The Effects of knowledge, format, and strategy on formal reasoning.* Colloquium given at Educational Testing Service (ETS) in Princeton, New Jersey, USA.

Leighton, J. P. (2004, January). *When expertise succeeds (and fails): The effects of knowledge on formal task performance*. Colloquium given in the Department of Psychology at the University of Western Ontario, London, Ontario, CANADA.

Leighton, J. P., & Boechler, P. (2003, May). *Creating student profiles and understanding test dimensionality in large-scale assessments.* Presentation in symposium of the first annual conference on Learning Outcomes and Transitions sponsored by the Canadian Education Statistics Council (CESC) and the Social Sciences and Humanities Research Council of Canada (SSHRC), Ottawa, CANADA.

- **Workshops (Invited)**

Leighton, J.P. (2016, September). *Think-aloud interviews vs cognitive laboratories.* Two-hour workshop and webinar delivered for Pearson Clinical Assessment, San Antonio, TX, USA.

- **Training Session/Workshops (Refereed)**

Lehman, B., & **Leighton, J.P.** (April 17, 2020). *Methodologies and Tools for Think Alouds and Cognitive Laboratories.* Research Training Session delivered at the annual meeting of the National Council on Measurement in Education (NCME). San Francisco, CA. USA. (Conference Cancelled due to COVID-19)

Leighton, J.P. (2016, July). *Distinguishing between think-aloud interviews and cognitive labs for test development and validation efforts.* Full day workshop delivered at the International Test Commission (ITC) Conference, Vancouver, BC, CANADA.

- **International/National Conferences (refereed)**

Leighton, J.P., & Anderson, G.J. (June 1, 2025). Measuring freedom of expression among teacher candidates. Paper delivered in Canadian Educational Research Association (CERA) session on Freedom of Expression, Equity and Diversity. *Canadian Society for Studies in Education (CSSE)*. Toronto, CANADA.

Jin, H.-Y., Daniels, L., Cui, Y., **Leighton, J.P.,** & Cutumisu, M. (June 12-17, 2024). Exploring the validity and reliability of a computational thinking assessment for pre-service teachers. Poster. Canadian Society for the Study of Education (CSSE), Montreal, QC.

Leighton, J.P. (June 28, 2023). Highlighting Article 12 of the UNCRC and the Importance of Freedom of Expression for Children's Mental Wellness. Presentation delivered at the 12th edition of the International Summer Course on the Rights of the Child. Theme: Raising the Banners of Freedom: Activism and Civic Participation of Children and Youth in Light of Article 12 of the UNCRC. Universite de Moncton and New Brunswick Child and Youth Advocate, Moncton, NB, CANADA.

Leighton, J.P. (June 21, 2022). Assessing the Harm to the Most Vulnerable Learners During the Pandemic: Reminding Ourselves of Children's Rights to Development and Education. Presentation delivered at the 11th edition of the *International Summer Course on the Rights of the Child. Theme: The World's Largest Minority: Special Focus on the Rights of Children and Youth with Disabilities and Special Needs.* Universite de Moncton and New Brunswick Child and Youth Advocate, Moncton, NB, CANADA.

Joseph, J. & **Leighton, J.P.** (June, 2022). *Young people and social anxiety: Is there therapeutic potential in computer mediated communication?* Annual Meeting of the Canadian Psychological Association, Calgary, AB.

Cui, Y., Cutumisu, M., Chen, F., Lutsyk-King, A., & **Leighton, J.P.** (April, 2022). Measuring thinking aloud during a digital performance assessment in data literacy. Paper presented at a symposium titled: *Addressing Practical Challenges in the International Performance Assessment of Critical Thinking* (Chairs: James Pellegrino & Patricia Alexander) at the annual meeting of the American Educational Research Association (AERA). Online and In Person. San Diego, CA, USA.

Cui, Y., Cutumisu, M., Chen, F., Lutsyk-King, A., & **Leighton, J.P.** (April, 2022). Digital performance assessment for teaching and measuring critical thinking in the domain of data literacy. Paper at the annual meeting of the American Educational Research Association (AERA). Online and In Person. San Diego, CA, USA.

Lutsyk-King, A., **Leighton, J.P.**, Cui, Y., Chen, F., & Cutumisu, M. (April, 2022). *Investigating the impact of cognitive biases on data literacy.* Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), San Diego, CA, USA.

Lutsyk-King, A., Cui, Y., Cutumisu, M., Hao, Y., & **Leighton, J.P.** (June, 2022). Assessing data literacy: Cognitive processes and biases in the digital arena. Paper presented at the 17th International Forum on *Knowledge Asset Dynamics (IFKAD) meeting, Special Track: Knowledge Acquisition at Risk*. Lugano, Switzerland.

Duquette, C., Gibson, L., & **Leighton, J.P.** (2021, Sept 1). Canadian teachers rating historically significant events: Similar criteria for temporally and theoretically diverse narratives. Presentation delivered at History Educators International Research [HEIRNET]. https://heirnetonline.com/heirnet-2021-virtual-conference/

Schultz, M., Stopek, J., Curnow, C., Parshall, C. & **Leighton, J.P.** (2021, April 28). IRL v URL: A roundtable on the impact of talking to test-takers remotely. Innovations in Testing. Online Conference. http://innovationsintesting.org/

Aranas, K., & **Leighton, J. P**. (2020, October 23). *Dimensions of physical activity as related to child attention-deficit/hyperactivity disorder symptoms* [Poster presentation]. CADDRA 7th Annual ADHD Research Day, St. John's, Newfoundland and Labrador, Canada. https:// www.caddra.ca/research/adhd-research-day/

Leighton, J.P. (2020, June). *Pre-Service teacher gender beliefs and potential impact on student assessment and feedback.* Paper presentation for the Canadian Society for the Study of Education Annual Conference, London, ON, Canada. https://csse-scee.ca/wp-content/uploads/2020/03/CSSE-Program-Draft-Mar-1.pdf (Conference cancelled)

Orr, A. & **Leighton, J. P.** (2020, May 27-30). *Pre-Service Teachers' Gender Attitudes and Beliefs in Relation to Children's Mistakes in the Classroom.* [12-minute talk]. 81st Canadian Psychological Association Annual National Convention, Montréal, Quebec, Canada. (Conference cancelled due to COVID-19)

Cutumisu, M., Guo, Q., Cui, Y., & **Leighton, J.P**. (April, 2020). A Deep Learning Approach to Cognitive Diagnostic Modeling: DVAE-CDM. Individual to be delivered at the annual meeting of the National Council on Measurement in Education (NCME). San Francisco, CA. USA. (Conference Cancelled due to COVID-19)

Leighton, J.P., & Qualie, V. (2019, June). Teachers' perspectives on learning assessment errors and feedback. Paper presented at the annual meeting of Canadian Society for the Study of Education, Vancouver, BC, CANADA.

Qualie, V., **Leighton, J.P**., Liu, Y., & Orr, A. (2019, June). Children's perceptions of trust, mistakes and feedback help predict academic achievement across domains. Poster presented at the annual meeting of the Canadian Psychological Association. Halifax, NS, CANADA.

Liu, Y., & **Leighton, J.P**. (2019, April). *Parental involvement in children's math achievement.* Poster to be presented at the annual meeting of the American Educational Research Association (AERA). Toronto, ON, CANADA.

Schultz, M., Stopek, J., & **Leighton, J.P.** (2018, November 8). *Learning from test takers – a primer*. (Test Development and Administration track). Presentation delivered at the annual meeting of the Institute of Credentialing Excellence (ICE) Exchange. Austin, TX, USA.

Lutsyk, A. & **Leighton, J.P.** (2018, July 5). *The effects of cognitive ability, motivation and perception of interview on the validity of think aloud interview data.* Paper delivered at the annual meeting of the International Test Commission (ITC) conference. Montreal, Quebec, CANADA.

Harley, J.M., Cutumisu, M., Daniels, L.M., **Leighton, J.P**., Liu, Y., Nadon, L., Gierl, M., & Haldane, C. (2018, June). *Examining achievement emotions across exam-taking contexts: Does environment influence affect?* Poster delivered for presentation at the International Congress of Applied Psychology (ICAP), Montreal, Canada.

Leighton, J.P. (2018, April). *Cognitive diagnosis is not enough: The challenge of measuring learning with classroom assessments.* Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), New York City, USA.

Chu, M-W., **Leighton, J.P.,** Guo, Q., & Cui. Y. (2018, April). *The use of Digitally Simulated Laboratories as educational assessment tools.* Paper presented at the coordinated session on *Digitally Simulated Science Laboratory Assessments: Differential Approaches for Analyzing Log File Data* (Chair: André A. Rupp) at the annual meeting of the National Council on Measurement in Education (NCME), New York City, USA.

Cui, Y., Guo, Q., **Leighton, J.P.,** & Chu, M-W. (2018, April). *Logdata Feature Extraction with Adaptive-Subspace Self-Organizing Map: A Neutral Network Approach.* Paper presented at the coordinated session on *Digitally Simulated Science Laboratory Assessments: Differential Approaches for Analyzing Log File Data* (Chair: André A. Rupp) at the annual meeting of the National Council on Measurement in Education (NCME), New York City, USA.

Guo, Q., Cui, Y., Chu, M-W., & **Leighton, J.P.** (2018, April). *Using Bayesian Networks to Analyze Logfile data and Compare with NAEP TRESim Results.* Paper presented at the coordinated session on *Digitally Simulated Science Laboratory Assessments: Differential Approaches for Analyzing Log File Data* (Chair: André A. Rupp) at the annual meeting of the National Council on Measurement in Education (NCME), New York City, USA.

Leighton, J.P., Chu, M-W., Cui, Y., & Guo, Q. (2018, April). Adding Value to Diagnostic Test-Based Inferences: The Case for Socio-Emotional Inputs. Paper presented at the coordinated session on *Digitally Simulated Science Laboratory Assessments: Differential Approaches for Analyzing Log File Data* (Chair: André A. Rupp) at the annual meeting of the National Council on Measurement in Education (NCME), New York City, USA.

Zlatkin-Troitschanskaia, O., Kuhn, C., **Leighton, J.P.,** Saas, H., Brückner, S. (2018, April). Evaluating a complex technology-based assessment (TBA) to measure teachers' instructional performance. Paper presented at the session on Scoring Simulations, Performance Tasks, and Polytomous Items at the annual meeting of the National Council on Measurement in Education (NCME), New York City, USA.

Chu, M-W. & **Leighton, J.P.** (2018, April). Enhancing Digitally Simulated Science Laboratory Experiences Using a Pre-Laboratory Activity and Learning Error Intervention. Paper presented at the annual meeting of the American Educational Research Association (AERA) SIG Science Teaching and Learning, New York City, USA.

Leighton, J.P., (2018, April). *Students' Affective Reactions and Cognitive Understanding of Classroom Mistakes and Related Feedback.* Paper presented at the session on Being Wrong (Sometimes): *How Students' Classroom Assessment Mistakes and Learning Errors Enhance Learning and Motivation* (Chair: James McMillan) at the annual meeting of American Educational Research Association (AERA) SIG Classroom Assessment, New York City, USA.

Schultz, M., Stopek, J., & **Leighton, J.P.** (2018, February). *How to talk to test takers: A primer.* Presentation delivered at the Innovations in Testing Conference of the Association of Test Publishers (ATP), San Antonio, TX, USA.

Leighton, J.P. (2017, April). *The AVCs of response processing data: The latest what, when and how of cog labs and think alouds.* Paper to be presented at the Cognition & Assessment SIG symposium Thinking Through Think-Alouds: Contemporary Contributions to Validation (Organizer & Chair: Daniel Mix, Curriculum Associated LLC) at the annual meeting of the American Educational Research Association (AERA), San Antonio, TX, USA.

Schultz, M.T., **Leighton, J.P.,** & Stopek, J. (2017, April). Talking to Test Takers – What Can Test Developers Learn? Paper to presented at the annual meeting of the National Council on Measurement in Education (NCME), San Antonio, TX, USA.

Chu, M-W., & **Leighton, J.P.** (2016, October). *Use of Learning Errors and Formative Feedback (LEAFF) Model to improve scientific inquiry skills.* Paper presented at the Science, Technology, Engineering, Mathematics (STEM) in Education Conference. Beijing Normal University, Beijing, CHINA. **Science, Technology, Engineering, and Mathematics (STEM) in Education Conference Best Paper Award.

Chu, M-W., **& Leighton, J.P.** (2016, July). Enhancements of simulated science laboratory assessments. Poster presentation delivered at the International Test Commission (ITC) Conference, Vancouver, BC, CANADA.

Hanson, W., **Leighton, J.P.,** Shealy, C.N., & Terjesen, M.D. (2016, July). The power and potential of psychological assessment around the world - Rethinking traditional paradigms. Paper presentation delivered at the International Test Commission (ITC) Conference, Vancouver, BC, CANADA.

Leighton, J.P., Guo, Q., Chu, M-W., & Tang, W. (2016, April). *A panel structural equation model of the effects of trust and sympathy on learner outcomes.* Poster presented the annual meeting of the American Educational Research Association (AERA), Washington, DC, USA.

Tang, W., Cui, Y., & **Leighton, J.P.** (2016, April). *Comparing the reliability coefficients from five approaches to reliability estimation: A Monte Carlo study.* Poster presented the annual meeting of the American Educational Research Association (AERA), Washington, DC, USA.

Tang, W., Guo, Q., & **Leighton, J.P**. (2016, April). *A validation study of the Learning Errors and Formative Feedback (LEAFF) model.* Electronic poster board presentation at the annual meeting of the National Council on Measurement in Education (NCME), Washington, DC, USA.

Leighton, J.P., Tang, W. & Guo, Q. (2015, April). *Developing and Validating a Self-report Measure of Attitudes Towards Errors.* Electronic poster board presentation delivered at the annual meeting of National Council on Measurement in Education (NCME), Chicago, IL, USA.

Leighton, J.P. (2015, April). *Accounting for Affective States in Response Processes: Impact for Validation.* Paper presented at the Coordinated Session Gathering and Evaluating Validity Evidence Based on Response

Processes (Organizer: Jose-Luis Padilla, University of Granada, Spain) at the annual meeting of National Council on Measurement in Education (NCME), Chicago, IL, USA.

Chu, M-W., Tang, W., Khan, S., & **Leighton, J. P.** (2014, May). *Exploratory analyses of affective variables in education.* Paper presented at the annual meeting of Canadian Society for the Study of Education, St. Catharines, ON, CANADA.

Chu, M-W., McCaffrey, A., Zhang, X., Daniels, L. M., **& Leighton, J. P.** (2014, April). *Measure of MOOC Environments on Achievement using the Learning Errors and Formative Feedback (LEAFF) Model.* Poster presented at the annual meeting of American Educational Research Association (AERA), Philadelphia, PA, USA.

Chu, M-W., Tang, W., Khan, S., & **Leighton, J. P.** (2014, April). *Comparison of structural equation modelling and Bayesian networks in educational research.* Poster presented at the annual meeting of American Educational Research Association (AERA), Philadelphia, PA, USA.

Chu, M-W., & **Leighton, J.P**. (2014, April). *Formative feedback in computer programming learning and assessment environments.* Paper presented at the Symposium (Organizers: M-W. Chu & J. M. Harley [McGill University]) on Innovative Practices for Assessment in Computer Based Learning Environments (Division C - Learning and Instruction) at the annual meeting of the American Educational Research Association (AERA), Philadelphia, PA, USA.

Chu, M-W., Babenko, O., Cui, Y., & **Leighton, J.P.** (2014, April). *Exploring the effects of perceptions of learning environments and assessments on students' test performance.* Paper presented at the annual meeting of the American Educational Research Association (AERA) SIG - Learning Environments at the Session titled Effects and Affects of the Learning Environment, Philadelphia, PA, USA.

Chu, M-W., & **Leighton, J.P.** (2014, April). *Developing a technologically-enhanced hybrid: Cognitive diagnostic stealth assessment.* Paper presented at the Coordinated Session (Organizer: B. Kaniskan, Pearson Research) on Cognitive Diagnostic Models to Address Issues in Next Generation Assessments at the annual meeting of the National Council on Measurement in Education (NCME), Philadelphia, PA, USA.

Leighton, J.P. & Bustos-Gomez, M.C. (2014, April). *Using the LEAFF model to enhance classroom learning and assessment.* Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), Philadelphia, PA, USA.

*Chu, M-W., & **Leighton, J.P.** (2013, June). *Innovation in Testing: Stealth Assessment of Affect and Cognition.* Paper delivered at the Symposium (Organizer J. Leighton) Assessment and Measurement of Learning in Light of Learners' Affective and Cognitive States at the annual meeting of the Canadian Society for Studies in Education (CSSE), Victoria, BC, CANADA.
***Winner of the David Bateson New Scholar Award at CSSE 2013.**

Leighton, J.P., & Seitz, P. (2013, June). *Measuring the Long Term Intervention of Cognition and Affect for Student Learning: A School Case Study.* Paper delivered at the Symposium (Organizer J. Leighton) Assessment and Measurement of Learning in Light of Learners' Affective and Cognitive States at the annual meeting of the Canadian Society for Studies in Education (CSSE), Victoria, BC, CANADA.

Bustos Gomez, M.C., & **Leighton, J.P.** (2013, June). *A Classroom Intervention for a Safe Learning Environment: A Test of the LEAFF Model*. Presentation delivered at the Symposium (Organizer J. Leighton) Assessment and Measurement of Learning in Light of Learners' Affective and Cognitive States at the annual meeting of the Canadian Society for Studies in Education (CSSE), Victoria, BC, CANADA.

Chu, M-W., Babenko, O., Cui, Y., & **Leighton, J. P.,** (2013, April). *Exploring students' perceptions of learning environments and attitudes towards international tests.* Poster presented at the annual meeting of American Educational Research Association (AERA), San Francisco, CA, USA.

Chu, M-W., Wagner, A. K., **Leighton, J. P.,** & Daniels, L. M. (2013, April). *Examinees' emotion changes and performance during computer adaptive tests.* Poster presented at the annual meeting of American Educational Research Association (AERA), San Francisco, CA, USA.

Chu, M-W., Guo. Q., & **Leighton, J. P.** (2013, April). *Modeling the relationship between student trust and attitude towards tests.* Paper presented at the annual meeting of Western Psychological Association (WPA), Reno, NV, USA.

Luhanga, U., Poth, C., & **Leighton, J.** (2012, June). *Beyond conceptual boundaries: Using student feedback to enhance teaching and learning in higher education.* Paper presented at roundtable at the annual meeting of the Society for Teaching and Learning in Higher Education (STLHE), Montreal, Quebec, Canada.

Luhanga, U., Poth, C. & **Leighton, J.P.** (2012, May). *Validating the experiences of teaching and learning questionnaire to the Canadian post-secondary education context.* Paper presented at Symposium on Conceptual and Technical Advances for Enhancing Teaching and Learning at the Annual meeting of the Canadian Society for the Study of Education (CSSE), Waterloo, Ontario, CANADA.

Seitz, P., Chu, M-W., Bustos, M-C., & **Leighton, J.P.** (2012, May). *Creating safe classroom environments using the learning errors and formative feedback model.* Paper presented at Symposium on *Conceptual* and Technical Advances for Enhancing Teaching and Learning at the Annual meeting of the Canadian Society for the Study of Education (CSSE), Waterloo, Ontario, CANADA.

Leighton, J.P. (2012, April). *Using Automatic Item Generation to Transform Standardized Assessments From Paper-Based to Technologically Innovative Formats*. (New title: *Issues of Cost, Time and Validity: Psychometric Perspectives on Technologically-Rich Innovative Assessments)*. Paper presented at Symposium on Knowing what students know and feel: Innovative technology-rich assessments at the Annual meeting of the American Educational Research Association (AERA), Vancouver, B.C. CANADA.

Wang, X., & **Leighton, J.P.** (2011, July)**.** *Evaluating the Consistency of Verbal Reports and the Use of Cognitive Models in Educational Measurement.* Poster presented at the annual international meeting of the Psychometric Society (IMPS), Hong Kong.

Leighton, J.P. (2011, April). *Investigating the quality, consistency, and accuracy of students' verbal reports in a large-scale assessment of mathematics.* Paper presented at the annual meeting of the American Educational Research Association (AERA), New Orleans, LA, USA.

Leighton, J.P., Wang, X., & Guo, Q. (2011, January). *The effects of media reports on students' beliefs and motivational dispositions towards standardized achievement testing.* Poster presented at the 9th annual Hawaii International Conference on Education, Honolulu, Hawaii, USA.

Leighton, J.P., & Gierl, M.J., (2010, June). *Cognitive models for reading, math, and science: Implications for formative and summative assessment.* Paper presented at the Annual meeting of the Canadian Society for the Study of Education (CSSE), Montreal, Quebec, CANADA.

Gierl, M.J. & **Leighton, J.P.** (2010, May). *Developing construct maps to promote formative diagnostic inferences using assessment engineering.* Paper presented at the Annual meeting of the National Council on Measurement in Education (NCME), Denver, Colorado, USA.

Sharma, N., White, J., Cui, Y., & **Leighton, J.P.** (2010, May). *The use of multi-source feedback in assessing undergraduate students in a general surgery/anesthesiology clerkship*. Paper presented at the Annual meeting of the Canadian Conference on Medical Education (CCME), St. John's, Newfoundland, CANADA.

Leighton, J.P. & Burns, A. (2010, January). *Developing a scale of speech behaviors to validate verbal reports in educational measurement.* Poster presented at the 8th annual Hawaii International Conference on Education, Honolulu, Hawaii, USA.

Babenko, O.I., **Leighton, J.P.,** Cor, M.K. (2009, May). *The influence of epistemic beliefs on syllogistic reasoning.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Ottawa, ON, CANADA.

Leighton, J.P. (2009, May). *The effect of interviewer in think-aloud studies: Implications for the development and validity of cognitive diagnostic assessment.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Ottawa, ON, CANADA.

Leighton, J.P. (2009, April). *Exploratory and confirmatory methods for cognitive model development.* Paper presented at the annual meeting of National Council on Measurement in Education (NCME), San Diego, California.

Cor, K.M., & **Leighton, J.P.** (2009, April). *Clarifying the relationship between autonomy support, motivation, performance and related educational outcomes: A meta-Analysis.* Paper presented at the annual meeting of the American Educational Research Association (AERA), San Diego, California.

Leighton, J.P. (2008, June). *Translating Lessons from expert development into the classroom.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Vancouver, B.C., CANADA.

Cor, M.K., **Leighton, J.P.,** & Klassen, R. (2008, June). *Classroom assessment and social cognitive theory: How assessment affects student perceptions of learning.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Vancouver, B.C., CANADA.

Cui, Y. & **Leighton, J.P**. (2008, April). *Simulation studies of the hierarchy consistency index for validating cognitive models used with cognitive diagnostic assessment.* Paper presented at the annual meeting of National Council on Measurement in Education (NCME), New York City, New York, USA.

Okamoto, C., **Leighton, J.P.,** & Cor, M.K. (2008, April). *The role of confidence and epistemological beliefs in syllogistic reasoning performance.* Paper presented at the annual meeting of the American Educational Research Association (AERA), New York City, New York, USA.

Cor, M.K., **Leighton, J.P., &** Klassen, R. (2008, April). *Can classroom assessment motivate learning? A review of how motivation theory informs best practice in classroom assessment.* Paper presented at the annual meeting of the American Educational Research Association (AERA), New York City, New York, USA.

Leighton, J.P., Heffernan, C., Cor, M.K., Gokiert, R.J., & Cui, Y. (2008, April). *An experimental test of student verbal reports and expert teacher evaluations for revising achievement Items.* Paper presented at the annual meeting of the American Educational Research Association (AERA), New York City, New York, USA.

Leighton, J.P., Cui, Y., & Cor, M.K. (2008, April). *Testing expert-based and student-based cognitive models: An application of the Attribute Hierarchy Method and Hierarchical Consistency* Index. Paper presented at the annual meeting of National Council on Measurement in Education (NCME), New York City, New York, USA.

Gokiert, R.J., & **Leighton, J.P.** (2008, April). *Large-scale science assessment: Three forms of construct validity evidence*. Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), New York City, New York, USA.

Leighton, J.P., Heffernan, C., Cor, K., Gokiert, R. & Cui, Y. (2007, May). *Comparing student verbal reports against professional teacher judgments in test item re-development.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Saskatoon, Saskatchewan, CANADA.

Cor, K., **Leighton, J.P.,** Heffernan, C., Gokiert, R., Stalwick, A., & Okamoto, C. (2007, May). *Measuring components of assessment literacy among secondary teachers.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Saskatoon, Saskatchewan, CANADA.

Anderson, G. J., & **Leighton, J.P.** (2006, November). *Institutional change in North American political economy and the lessons of cognitive science.* Paper presented at the International Political Economy Society Conference held at the Princeton Center for Globalization and Governance, Princeton University, New Jersey, USA.

Wang, C., Gierl, M.J., & **Leighton, J.P**. (2006, April). *Investigating the cognitive processes underlying student performance on a foreign language reading test: An application of the attribute hierarchy method.* Poster presented at the annual meeting of the National Council on Measurement in Education (NCME), San Francisco, CA, USA.

Cui, Y., **Leighton, J.P**., & Zheng, Y. (2006, April*). Evaluating the performance of the two classification methods for the attribute hierarchy method.* Poster presented at the annual meeting of the National Council on Measurement in Education (NCME), San Francisco, CA, USA.

Cui, Y., **Leighton, J.P**., Gierl, M.J., & Hunka, S. (2006, April). *The hierarchical consistency index: A person-fit statistic for the attribute hierarchical model.* Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), San Francisco, CA, USA.

Gierl, M.J., **Leighton, J.P**., & Tan, X. (2006, April). *Evaluating DETECT classification accuracy when data display complex structure.* Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), San Francisco, CA, USA.

Gokiert, R. J. & **Leighton, J.P**. (2006, April). *A three-stage approach for identifying gender differences on large-scale science assessments.* Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), San Francisco, CA, USA.

Gokiert, R.J., & **Leighton, J.P.** (2005, May). *Investigating DIF on a large-scale science assessment: Combining quantitative and qualitative methods*. Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), London, Ontario, CANADA.

Gierl, M.J., & **Leighton, J.P.,** & Tan, X. (2005, May). *Evaluating the cluster consistency of DETECT when data display complex structure.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), London, Ontario, CANADA.

Cui, Y., & **Leighton, J.P.** (2005, May). *Using linear DFA and logistic regression analysis to identify students' skill measured by a large-scale assessment*. Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), London, Ontario, CANADA.

Cui, Y. & **Leighton, J. P.,** & Gokiert, R.J. (2005, May). *A simulation approach for determining the number of factors in the SAIP 99 written assessment.* Poster presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), London, Ontario, CANADA.

Leighton, J.P., & Gierl, M.J. (2005, May). *Identifying models of cognition in educational measurement.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), London, Ontario, CANADA.

Callahan, C.M., Sternberg, R.J., Jarvin, L., **Leighton, J. P**., Newman, T., Moon, T.R., Grigorenko, E. L., & Capper, M.R. (2005, April). *Girls can't do math? The disidentification effect and gifted high school students' math performance*. Paper presented at the annual meeting of the American Educational Research Association (AERA), Montreal, Quebec, CANADA.

Leighton, J.P., & Gokiert, R. J. (2005, April). *The cognitive effects of test item features: Informing item generation*. Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), Montreal, Quebec, CANADA.

Gokiert, R., **Leighton, J.P**., & Cui, Y. (2005, April). *Investigating the statistical and cognitive dimensions of large-scale science assessments.* Paper presented at the annual meeting of the American Educational Research Association (AERA), Montreal, Quebec, CANADA.

Leighton, J. P., & Gokiert, R. (2005, April). *Investigating test items designed to measure higher-order reasoning using think-aloud methods.* Paper presented at the annual meeting of the American Educational Research Association (AERA), Montreal, Quebec, CANADA.

Gokiert, R. J., **Leighton, J. P**., & Cui, Y. (2004, October). *Investigating the dimensional structure of a large-scale achievement test.* Poster presented at the International Test Commission (ITC): Fourth International Conference, Williamsburg, VI, USA.

Gokiert, R., **Leighton, J. P**., Boechler, P., & Cui, Y. (2004, May). *Documenting SAIP science data for multivariate analyses.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Winnipeg, Manitoba, CANADA.

Leighton, J. P., & Gokiert, R. (2004, May). *Avoiding students' misinterpretation of test items: Criteria to identify ambiguous test items in the SAIP science 99 written assessment.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Winnipeg, Manitoba, CANADA.

Leighton, J. P. (2004, April). *Teaching and assessing deductive reasoning skills.* Paper presented at the annual meeting of the American Educational Research Association (AERA), San Diego, California, USA.

Leighton, J. P., & Gierl, M. J., & Hunka, S. (2002, May). *An approach to assessing thinking skills: The attribute hierarchy model.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Toronto, Ontario, CANADA.

Leighton, J. P., & Gierl, M. J., & Hunka, S. (2002, April). *The attribute hierarchy model: An approach for integrating cognitive theory with assessment practice*. Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), New Orleans, Louisiana, USA.

Leighton, J. P., & Carbonaro, M. (2002, April). *Learning outside the box: Using cognitive models to understand student's thinking about hypothesis testing and forming concepts*. Paper presented at the annual meeting of the American Educational Research Association (AERA), New Orleans, Louisiana, USA.

Leighton, J. P. (2001, April). *An analysis of students' hypothesis testing skills*. Paper presented at the annual meeting of the American Educational Research Association (AERA), Seattle, Washington, USA.

Leighton, J. P., & Dawson, M. R. W. (1999, June). *Interpreting PDP networks trained to solve the Wason card selection task: Towards an inductive theory of a deductive problem.* Symposium conducted at the ninth annual meeting of the Canadian Society for Brain, Behaviour, & Cognitive Science (CSBBCS), Edmonton, Alberta, CANADA.

Leighton, J. P., Gierl, M. J., & Hunka, S. (1999, April). *Attributes in Tatsuoka's attribute-hierarchy model.* Poster presented at the annual meeting of the National Council on Measurement in Education (NCME), Montreal, Quebec, CANADA.

Leighton, J. P., & Dawson, M. R. W. (1999, February). *Qualitative comparisons of networks: A case study*. Symposium conducted at the First International Interdisciplinary Conference in Advances in Qualitative Methods, Edmonton, Alberta, CANADA.

Leighton, J. P., Rogers, W. T., & Maguire, T. O. (1998, Oct.). *Assessment of student problem-solving on ill-defined tasks.* Paper presented at the Banff Conference on Measurement and Evaluation, Banff, Alberta, CANADA.

Rogers, W. T., Maguire, T. O., & **Leighton, J. P.** (1998, July). *Alternative methods for assessing problem solving in juniour high school mathematics*. Paper presented at the annual meeting of the Canadian Psychological Association (CPA), Edmonton, Alberta, CANADA. Abstracted in Canadian Psychology, 39:2a, 1998.

Leighton, J. P., & Wowk, J. (1997, April). *Students' beliefs about achievement tests*. Poster presented at the biennial meeting of the Society for Research in Child Development (SRCD), Washington, DC., USA.

Rogers, W. T., Maguire, T. O., & **Leighton, J. P**. (1997, March). *Alternative methods for assessing performance in mathematics.* Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), Chicago, Illinois, USA.

Leighton, J. P., & Bisanz, G. L. (1996, August). *Development of children's understanding about the ozone layer.* Poster presented at the fourteenth biennial meeting of the International Society for the Study of Behavioral Development (ISSBD), Quebec City, CANADA.

Leighton, J. P., & Hunka, S. (1995, June). *The Johnson-Neyman method and Mathematica™.* Paper presented at the annual meeting of the Canadian Society for the Study of Education (CSSE), Montreal, Quebec, CANADA.

Leighton, J. P., & Bisanz, G. L. (1994, July). *Assessing children's understanding of the ozone layer.* Poster presented at the annual meeting of the Canadian Psychological Association (CPA), Penticton, British Columbia, CANADA. Abstracted in Canadian Psychology, 35:2a, 95.

- **Symposium Organizer and Discussant (invited)**

Leighton, J.P. (2011, January). *What's New from Educational Measurement: Issues and Practice (EMIP) -- A Sample of Recently Published Papers.* Organizer and discussant of invited symposium at the annual meeting of the National Council on Measurement in Education (NCME), New Orleans, LA, USA.

- **Discussant at National/International Conferences (invited)**

Leighton, J.P. (2022, April). Discussant of session Level and Profiles of Young Professionals' Critical Online Reasoning in Law, Medicine, and Teacher Practice (Chair: Olga Zlatkin-Troitschanskaia, Johannes

Gutenberg University of Mainz) at the annual meeting of the American Educational Research Association (AERA), San Diego, CA, USA.

Leighton, J.P. (2018, April). Discussant of session Diagnosis and Feedback in Learning and Assessment Systems (Chair: Jimmy De La Torre & Alina Von Davier) at the annual meeting of the National Council on Measurement in Education (NCME), New York City, USA.

Leighton, J.P. (2016, April). Discussant of session Minimizing Uncertainty: Effectively Communicating Results from CDM-Based Assessments at the annual meeting of the National Council on Measurement in Education (NCME), Washington, DC, USA.

Leighton, J.P. (2013, June). Discussant of session Advances in Measurement at the annual meeting of the Canadian Society for Study of Education (CSSE), Victoria, BC, CANADA.

Leighton, J.P. (2013, April). Discussant of invited session on *Analysis of Topics in JEM, EM:IP and NCME Program Bulletins* at the annual meeting of the National Council on Measurement in Education (NCME), San Francisco, CA, USA.

Leighton, J.P. (2012, August). Discussant of keynote presentations at national conference on *Building Optimal Student Information Systems for Enhanced School and System Educational Leadership*. Airdrie, AB, CANADA.

Leighton, J.P. (2012, April). Discussant of symposium entitled *Advanced Psychometric Models for Situational Judgment Tests* at the annual meeting of the National Council on Measurement in Education (NCME), Vancouver, B.C., CANADA.

Leighton, J.P. (2011, January). Discussant of symposium entitled *Item Difficulty Modeling* at the annual meeting of the National Council on Measurement in Education (NCME), New Orleans, LA, USA.

Leighton, J.P. (2010, May). Discussant of symposium entitled *Using Cognitive Attributes to Develop Mathematics Assessments, Opportunities and Challenges* at the annual meeting of the American Educational Research Association (AERA), Cognition and Assessment SIG, Denver, Colorado, USA.

Leighton, J. P. (2003, April). Discussant of symposium entitled *Applications of rule space methods to large scale assessment design* at the annual meeting of the National Council on Measurement in Education (NCME), Chicago, Illinois, USA.

Leighton, J. P. (2002, April). Discussant of symposium entitled *Reporting more than scores: Skills-based scoring of a national test* at the annual meeting of the National Council on Measurement in Education (NCME), New Orleans, Louisiana, USA.

- **Media**

CTV News. Is critical thinking eroding in today's technological era? (March 31, 2026). Kent Morrison https://www.youtube.com/watch?v=aA7_8NdcawM.

CBC News. "1 in 3 Edmonton public-school students chronically absent from class, data shows" (Dec 4, 2025); Nicholas Frew https://www.cbc.ca/news/canada/edmonton/edmonton-schools-chronic-absenteeism-9.6997358

University Affairs. "Time to Disagree" (Nov 19, 2025); Hannah Liddle https://universityaffairs.ca/features/time-to-disagree/

CBC News. "How some organizations are changing course on equity, diversity and inclusion initiatives" (Feb 15, 2025); Emily Williams https://www.cbc.ca/news/canada/edmonton/how-some-organizations-are-changing-course-on-equity-diversity-and-inclusion-initiatives-1.7456341

University Affairs. "Inside the University of Alberta's Move Away from Equity, Diversity and Inclusion" (January 28, 2025); Hannah Liddle https://universityaffairs.ca/news/inside-the-university-of-albertas-move-away-from-equity-diversity-and-inclusion/

CBC News. "Advocates Sound Alarm over Children Without Status Being Denied Education in Alberta" (Dec 19, 2024); Mrinali Anchan https://www.cbc.ca/news/canada/edmonton/advocates-sound-alarm-over-children-without-status-being-denied-education-in-alberta-1.7413118

CTV News. "Concern over Education Funding" (March 6, 2024); Chelan Skulski https://edmonton.ctvnews.ca/video/c2880662-concern-over-education-funding?__vfz=medium%3Dsharebar

New Trail. "Thesis: Reading, Riding and Arithmetic" (Spring, 2023, pp. 16-17); Kate Black https://www.ualberta.ca/newtrail/ideas/reading-riding-arithmetic.html

Globe and Mail "Well-rounded curriculums prepare students for learning – and life**"** (October 7, 2022); Daina Lawrence
https://www.theglobeandmail.com/featured-reports/article-well-rounded-curriculums-prepare-students-for-learning-and-life/?utm_source=Shared+Article+Sent+to+User&utm_medium=E-mail:+Newsletters+/+E-Blasts+/+etc.&utm_campaign=Shared+Web+Article+Links

Global News. "How Much Homework is Healthy for Students?" (Sept 3, 2022). Kim Smith. https://globalnews.ca/video/9105148/how-much-homework-is-healthy-for-students/

630 CHED/770CHQR. "Do kids need homework?" (Sept 1, 2022). Shaye Ganam. https://pdst.fm/e/chtbl.com/track/745E89/traffic.megaphone.fm/CORU1969063491.mp3?updated=1662053259
https://open.spotify.com/episode/4KSRvo5SOljq57O9A1TXov?si=RX3n-fNRQuqvS49cEv1cMw

CBC Radio Active. "Homework: Good or bad." (August 30, 2022). Rod Kurtz. https://www.cbc.ca/listen/live-radio/1-52/clip/15933786

Global News. "A more typical return to Alberta Classrooms" (August 29, 2022); Sarah Komadina. https://globalnews.ca/news/9093489/a-more-typical-return-to-alberta-classrooms/

Edmonton Journal. "U of A says it will implement rapid COVID-19 testing for those not fully vaccinated, but won't require proof of status" (August 17, 2021); Anna Junker. https://edmontonjournal.com/news/local-news/u-of-a-to-implement-rapid-covid-19-testing-for-those-not-fully-vaccinated-mandatory-masks-for-return-to-campus

Global News. "Face masks are mandatory for Edmonton kids over 2. How can they be made comfortable?" (August 4, 2020); Sarah Komadina. https://globalnews.ca/news/7238482/edmonton-kids-face-masks/

Folio. "Why COVID-19 loneliness can be especially hard on teens" (May 4, 2020); Geoff McMaster. https://www.folio.ca/why-covid-19-loneliness-can-be-especially-hard-on-teens/

630 CHED Afternoons. "How to Cope with Headline Stress" (April 7, 2020); J'Lyn Nye. https://omny.fm/shows/ched-afternoon-news/how-to-cope-with-headline-stress

Folio. "How to Cope with Headline Stress" (April 6, 2020); Geoff McMaster. https://www.folio.ca/how-to-cope-with-headline-stress/

University Affairs. "Universities Differ on Whether A Pass-Fail Grading Scheme Should be Optional" (April 1, 2020); Nathan Fung. https://www.universityaffairs.ca/news/news-article/universities-differ-on-whether-a-pass-fail-grading-scheme-should-be-optional/

University Affairs. "How to Bring Students into the Feedback Loop: Small Steps Can Make a Bid Difference to Engaging Students in Their Own Assessment" (November 28, 2019); Suzanne Bowness. https://www.universityaffairs.ca/features/feature-article/how-to-bring-students-into-the-feedback-loop/

630 CHED Afternoons. "Albert Matters: Standardized Testing" (Sept 3, 2019); J'Lyn Nye. https://omny.fm/shows/ched-afternoon-news/alberta-matters-standardized-testing

Globe and Mail "UCP leader Jason Kenney proposes changes to school testing in Alberta" (April 9, 2019); Caroline Alphonso https://www.theglobeandmail.com/canada/alberta/article-ucp-leader-jason-kenney-proposes-changes-to-school-testing-in-alberta/

Global News Radio "Family Matters: How to shift kids' focus from getting to giving over the holidays" (Dec 21, 2017); Laurel Gregory

Global News TV "Family Matters: How to shift kids' focus from getting to giving over the holidays" (Dec 21, 2017); Laurel Gregory https://globalnews.ca/video/3930305/family-matters-how-to-shift-kids-focus-from-giving-to-getting-over-the-holidays

CBC Radio *"Pilot project aims to help students learn to make the most of their mistakes"* (July 14, 2017; 3:50pm); Rod Kurtz

Edmonton Examiner "*What aren't tests telling us about Edmonton Schools?"* (October 21, 2015). Madeleine Cummings.

Toronto Star *"Trust your instincts? Maybe you shouldn't."* (November 4, 2015). Omar Mouallem. https://www.thestar.com/life/2015/11/04/trust-your-instincts-maybe-you-shouldnt.html

The Chronicle of Higher Education (Technology) *"Professors Cede Grading Power to Outsiders – Even Computers."* (August 7, 2011). Jeffrey R. Young. https://www.chronicle.com/article/professors-cede-grading-power/128528

- **Local/Province-wide Presentations (Knowledge Mobilization and Community Engagement)**

Leighton, J.P. University of Alberta Festival of Teaching and Learning (May 4, 2023). Freedom of Expression and Action and Universal Design for Learning. Centre for Teaching and Learning, University of Alberta.

Leighton, J.P. (2023, March 9). *A summary of research from our SSHRC partnership.* Presentation delivered to the Board of the Suzuki Charter School.

Leighton, J.P. (April 25, 2022). Covid-19 and Our Children. Online presentation delivered for Rotary Club of Edmonton West. https://www.rotaryedmontonwest.com/events?year=2022&month=4&day=25

Leighton, J.P. "Opinion: Children should have the right to choose the school that suits their needs" Edmonton Journal. (April 16, 2022); https://edmontonjournal.com/opinion/columnists/opinion-children-should-have-the-right-to-choose-the-school-that-suits-their-needs

Leighton, J.P. (March 4, 2022). Ryan Jesperson (Real Talk) Show. Panelist discussing how to talk to kids about war and other difficult topics. https://www.youtube.com/watch?v=2-5x4ewcClg&t=2567s

Leighton, J.P. University of Alberta Alumni Association (Jan 25, 2022). COVID-19 and Children: A Perfect Storm of Stressors. Webinar delivered for University Alumni. https://www.ualberta.ca/alumni/on-demand/webinars.html?categories=i&faculties=education&details=covid-19-and-children-a-perfect-storm-of-stressors

Leighton, J.P. Augustana Campus, University of Alberta (Nov 26, 2021). *Open Book Higher-Level Thinking MC Questions.* Presentation delivered at Augustana's Teaching Seminar.

Leighton, J.P. University of Alberta Festival of Teaching and Learning (June 29, 2021). Open-Book Higher-Level Thinking Multiple Choice Assessments. Presentation can be found at CTL site (https://www.ualberta.ca/centre-for-teaching-and-learning/events/festival-of-teaching/2021/schedule.html) and https://youtu.be/pOxZhPgSai4

Leighton, J.P. Legal Forum. Post-Pandemic Learning and Teaching: A Tale of Newfound Access and Accountability (March 18, 2021). This presentation was done virtually and synchronously, but not recorded.

Leighton, J.P. University of Alberta Speaker's Bureau Online (Edmonton Public Library). (2020, October 27, 2020). The thrill of the spill. Parental micro-messaging and childhood anxiety. Access at https://www.youtube.com/watch?v=0aSkI3x9esw

Leighton, J.P. University of Alberta Speaker's Bureau Online. (2020, May 15). Helping your children get through the Covid-19 lockdown. Access at https://www.ualberta.ca/university-relations/speakers-bureau/speakers-bureau-online.html.

Aranas, K., & **Leighton, J. P.** (2020, March 13). *The relationship between physical activity characteristics and the reduction of attention-deficit/hyperactivity disorder symptoms and impairment* [Poster presentation]. The 13th Annual G. M. Dunlop Educational Psychology Graduate Student Conference, Edmonton, Alberta, Canada. (Conference cancelled due to COVID-19)

Qualie, V., & **Leighton, J.P**. (2019, October 16). *Research-practice partnerships: Bridging the gap with evidence.* Presentation and poster delivered at the Annual meeting of the Alberta Research Network (ARN). Edmonton, Alberta, CANADA.

Leighton, J.P. (2019, September 22). WISER (Women in Science, Engineering & Research) Edmonton. #LETSTALK Mental Health Workshop. Access at https://wiseredmonton.ca/2019/09/22/letstalk-mental-health-workshop/

Leighton, J.P. & Qualie, V. (2019, February 25). 2019 Launch Learning and Assessment Strategies. Presentation delivered at Calgary Arts Academy. Edmonton, AB.

Leighton, J.P. & Qualie, V. (2019, February 1). 2019 Launch Learning and Assessment Strategies. Presentation delivered at Suzuki Charter School. Edmonton, AB.

Leighton, J.P. (2017, August 22). Sowing seeds for lifelong learning. Presentation delivered at Aurora Academic Charter School. Edmonton, AB.

Leighton, J.P. (2017, October 4 & 16). Formative Instructional Assessment Strategies for Academic and Personal Excellence. Presentation delivered at Aurora Academic Charter School (School Council & Board of Directors). Edmonton, AB.

Leighton, J.P. (2017, September 28). Update on Year 2 of SSHRC funded LEAFF Project. Presentation delivered at Suzuki Charter School Retreat (Fantasyland Hotel). Edmonton, AB.

Leighton, J.P., Paradis, L., & Wozny, P. (2017, October 27). Presentation delivered at the Association of Alberta Public Charter Schools (TAAPCS). Edmonton, Alberta.

Leighton, J.P. (2016, September 30). *Continuing the research: Tracing early academic excellence.* Presentation delivered ay Suzuki Charter School Retreat. Edmonton, Alberta.

Leighton, J.P. (2016, August 30). *Psycho-social variables in achievement, the LEAFF model, and efforts to develop SSHRC-funded formative instructional and assessment strategies.* Presentation delivered ay Suzuki Charter School. Edmonton, Alberta.

Leighton, J.P. (2015, April 7). Science backs up high-stakes testing. Edmonton Journal. http://www.pressreader.com/canada/edmonton-journal/20150407/281852937084729/TextView.

Leighton, J.P. (2014, March). *Edu Life. Assessment for Learning & Assessment of Learning.* You Tube Video Interview. http://www.youtube.com/watch?v=aH8p6NJbBlY.

Leighton, J.P. (2013, November). *Suzuki Charter School Research Project Outcomes*. Presentation delivered at Suzuki Charter School. Edmonton, Alberta.

Bustos, M. C., & **Leighton, J.P.** (2013, May). *Impact of Assessment Feedback Interventions on Perceptions of the Learning Environment: A Class in Statistics.* Poster presented at the 3rd Annual Graduate Student Academic Conference at the University of Alberta, Edmonton, Canada.

Chu, M-W., Guo, Q., & **Leighton, J. P**. (2013, March). *Trust and attitudes towards testing.* Paper presented at the 6th Annual G. M. Dunlop Graduate Student Colloquium, Edmonton, Alberta, CANADA.

Wagner, A. K., Chu, M-W., Daniels, L. M., & **Leighton, J. P.,** (2013, March). *Testing: An emotional spiral.* Poster session presented at the 6th Annual G. M. Dunlop Graduate Student Colloquium, Edmonton, Alberta, CANADA.

Leighton, J.P. (2011, October). *Current issues in assessment practice.* Presentation delivered at Ross Sheppard high school. Edmonton, AB.

Mercer, J., Tuepah, R., **Leighton, J.P**., Padwal, R., & Sharma, A. (2011, March). *Development of an aetiological tool for the assessment and management of obesity: A pilot investigation of dietary factors.* Poster presented at annual symposium of the Department of Agriculture, Food, and Nutritional Sciences, University of Alberta.

Wang, X. & **Leighton, J.P**. (2011, March). *Evaluating the consistency of verbal reports and the use of cognitive models in educational measurement.* Paper presented at The 4th Annual G. M. Dunlop Educational Psychology Graduate Student Colloquium, Edmonton, Alberta, Canada.

Leighton, J.P., Heffernan, C., Cor, M.K., Gokiert, R.J., & Cui, Y. (2009, February). *Investigating student performance on modified test items in science.* Presentation at the Edmonton Public School Board, Research Support Services, Brown Bag Lunch Lecture Series, Edmonton, Alberta.

Heffernan, C., Cor, M.K., **Leighton, J.P**., & Gokiert, R.J. (2007, October). *Think outside the bubble: Get your students to evaluate your questions.* Paper presented at the 13th annual conference of the Alberta Assessment Consortium (AAC). Edmonton, Alberta.

Varnhagen, C. K., Heth, C. D., Willson, L., **Leighton, J. P**., Boechler, P., & Winship, I. (1999, May). *Intro.psych: A technologically enhanced alternative to introductory psychology lectures.* Symposium presentation at conference on Technology, Pedagogy/Politics: Critical Visions of New Technologies in Education, Calgary, AB. (poster on this topic also presented at Thirteenth Annual Joseph R. Royce Research Conference [1999], University of Alberta, AB; and Research Revelations [1999], University of Alberta, Edmonton, AB).

Rogers, W. T. & **Leighton, J. P.** (1999, February). *Alternative methods of assessing problem solving.* Poster presented at Research Revelations, University of Alberta, Edmonton, AB (poster on this topic also presented at 1998 Research Revelations, University of Alberta, Edmonton, AB).

Leighton, J. P., & Bisanz, G. L. (1996, February). *Development of children's understanding about the ozone layer*. Paper presented at the 10th annual Joseph R. Royce Research Conference, University of Alberta, Edmonton, AB.

Leighton, J. P., & Bisanz, G. L. (1993, April). *Assessing children's and parent's understanding of the ozone layer.* Poster presented at the Third Annual Brian Harder Honors Day Conference, University of Alberta, Edmonton, AB.

TEACHING

- **Undergraduate Courses <u>Coordinated</u> at the University of Alberta**

  EDPY 302 Learning and Development from Infancy to Adolescence

EDPY 302 was fully redeveloped in 2025 to encompass theoretical and practical aspects of physical, cognitive, social and emotional development and learning during the period from infancy to adolescence (0-19 years). It effectively harmonizes the previous EDPY 302 and EDPY 304.

- **Undergraduate Courses <u>Taught</u> at the University of Alberta**

  EDPY 302 Learning and Development in Childhood

Educational Psychology 302 (EDPY 302) is an introductory-level course in human development and learning. This course is directed towards students who expect to work with children (ages 0-12). It is designed to provide students with the opportunity to study childhood development and learning with a particular focus on the application of theory to educational practice. In this course students will gain an understanding of how children from a diversity of backgrounds develop and learn and how teachers can provide appropriate learning opportunities that support students' educational, physical, cognitive, social, cultural, moral, and psychological development.

EDPY 304 Adolescent Development and Learning

This course is directed towards students who expect to work with adolescents (ages 11-17). It is designed to provide you with the opportunity to study adolescent development with a particular focus on the application of developmental theory to educational practice. We begin by examining the biological and cognitive changes associated with adolescence. Next, we consider how these internal changes influence the adolescent's role within the social context of their family, peers, school, work, etc. Finally, we will focus on individual differences in adolescent development including current problems and ways to support resiliency. During the course, students are expected to reflect on how adolescent development impacts them as a teacher.

- **Graduate Courses <u>Taught</u> at the University of Alberta**

EDPY 500 Introduction to Data Analysis in Educational Research

The purpose of this course is to present students with an introduction to descriptive and inferential univariate statistics commonly used in social science research. I emphasize two main aspects of statistical reasoning: (a) computational formulas and assumptions, and (b) appropriate uses of univariate statistics in educational research. The lab to this course provides students with an opportunity to use a computer statistical package to analyze data. A thorough understanding of the topics covered in this course prepares students for more advanced graduate work in educational statistics and ensures that students can begin to conduct their own data analyses.

EDPY 501 Introduction to Methods in Educational Research

Research design is a foundational aspect of thinking and drawing evidence-based conclusions from educational and social scientific research. There are many courses to be taken in research design. The purpose of this course is to provide an overview of research design. This overview consists of understanding the preliminary considerations that go into selecting a qualitative, quantitative, or mixed methods research design. These include knowing the definition for these different approaches, considering philosophical worldviews, reviewing the literature, understanding the use of theory in relation to research questions and data, anticipating ethical issues, and developing writing strategies. We will discuss the process of research as it relates to each approach. This process includes writing an introduction, specifying a purpose statement, and developing research questions and/or hypotheses. This course will also discuss the methods and procedures for quantitative, qualitative, and mixed methods studies

EDPY 505 Advanced Univariate Statistics in Educational Research

The purpose of this course is to present students with advanced univariate procedures. The majority of the semester is spent on multiple regression and advanced analysis of variance models (e.g., mixed repeated measure models). I emphasize two aspects of statistical reasoning as we examine these models, namely: (a) computational formulas and assumptions, and (b) appropriate uses of advanced univariate statistics in social science research. A thorough understanding of multiple regression and advanced analysis of variance procedures prepares students for study of multivariate statistical analysis and ensures that students can conduct their own data analyses. In addition, the laboratory component of the course makes it possible for students to learn how to carry out ANOVA and Regression analyses using computer software, namely SPSS.

EDPY 510 Learning, Cognition, and Education

The purpose of this course is to present current views/theories on thinking and learning, and how these views can be applied in educational settings. The process of thinking, including what it means to "think well" has traditionally been the focus of cognitive psychology and other disciplines such as philosophy and economics. Understanding what thinking entails and what it means to think well is vital to promoting successful life-long learning. In this course, we focus on examining views on thinking and discuss how these views can be used successfully in applied educational settings.

EDPY 608 Selected Topics in Educational Measurement (validity)

The purpose of this course is to critically examine current issues in the field of measurement and evaluation. Two topics are discussed: The first topic is validity, its definition, and what it entails within educational measurement drawing on seminal research and theoretical formulations. The second topic discussed is the role of cognitive psychology in educational measurement

EDPY 610 Selected Topics in Learning, Cognition, and Education

This course is designed to introduce students to advanced topics in the study of complex cognition and learning—in particular, the transfer of research on cognition and learning into classroom practice. The majority of the term is spent reading and critically analyzing research articles on cognition and learning in terms of their objectives, research methodology, and educational implications for classroom practice. Students read primary theoretical and empirical research and take turns leading class discussions, in which the critical analysis of research methodology and conclusions are fostered. Students also develop and present methods for innovative research translation to stakeholders.

EDPY 644 Consultation in School and Clinical Psychology

A seminar course intended to explore, through reading and practical discussion of clinically-relevant reading material, the role of the psychologist as consultant and collaborator. Topics discussed in this course include models/theories, related skill development, evaluation/techniques, and issues and trends related to consultation and collaboration. Restricted to PhD students enrolled in the School and Clinical Child Psychology and Counselling Psychology programs.

EDPY 697 The Cognitive Analysis and Construction of Achievement Tests

This course gives students a specific introduction to the "cognitive characteristics" of educational achievement tests by (a) drawing on both seminal and current cognitive research in reasoning and problem solving, and (b) applying this research to the analysis of test items so as to evaluate the degree to which the items measure what they are referenced to measure. In addition, students examine how to construct test items that measure specific cognitive skills. Students are expected to learn the major theories and findings in reasoning and problem solving, and be able to understand, challenge, and evaluate these findings against the assumptions and research advanced in the educational measurement literature. This course goes together, as part of a series, with EDPY 697—The Construction and Analysis of Attitude Surveys.

ACADEMIC (STUDENT) SUPERVISION

Postdoctoral Supervision

- (2021-2023) Dr. Amir Rasooli** (Queen's University)
- (2015-2016) Dr. Wei Tang (University of Alberta)
- (2008) Dr. Lia Daniels* (University of Manitoba)
- (2006-2008) Dr. Carol Okamoto (University of Toronto)

*Killam postdoctoral fellowship awarded (honorary only; Dr. Daniels was hired as tenure-track faculty same year)
**Killam postdoctoral fellowship

Doctoral Students (Main Supervisor)

- (2018-2025) Heather Gautreau Educational Psychology (Completed)
- (2020-present) Katrina Aranas** Educational Psychology
- (2019-present) Alina Lutsyk-King Educational Psychology
- (2013-2026) Jonathan Duff Department of Pediatrics

- (2010-2013) Paolina Seitz Educational Psychology (Completed)
- (2010-2017) Man-Wai Chu*/[t] Educational Psychology (Completed)
- (2007-2009) Oksana Babenko** Educational Psychology (Completed)
- (2003-2007) Ying Cui Educational Psychology (Completed)
- (2003-2007) Rebecca Gokiert Educational Psychology (Completed)
- (2002-2006) Greg Sadesky Educational Psychology (Completed)

*Killam doctoral fellowship award winner
**SSHRC doctoral fellowship award winner
[t]David Bateson new scholar award winner at Canadian Society for Studies in Education (CSSE; 2013).

Master's Students (Main Supervisor or see Co-Supervision below)

- (2020-2021) Talia Schatz Educational Psychology (Completed)
- (2019-2020) Katrina Aranas* Educational Psychology (Completed)
- (2019-2021) Jessica Joseph* Educational Psychology (Completed)
- (2018-2020) Alicia Orr* Educational Psychology (Completed)
- (2017-2019) Ye Liu Educational Psychology (Completed)
- (2016-2018) Alina Lutsyk Educational Psychology (Completed)
- (2012-2013) Lisa Davies (co-supervised w/ Dr. George Buck - Completed) Educational Psychology (Completed)
- (2011-2013) Maria-Clara Bustos Educational Psychology (Completed)
- (2010-2012) Ulemu Luhanga*** Educational Psychology (Completed)
- (2009-2012) Qi Guo Educational Psychology (Completed)
- (2008-2011) Xian Wang Educational Psychology (Completed)
- (2007-2009) Amy Nguyen***[t] Educational Psychology (Completed)
- (2006-2008) Ken Cor**/*** Educational Psychology (Completed)
- (2004-2008) Colleen Heffernan Educational Psychology (Completed)
- (2001-2003) Matthew Gushta Educational Psychology (Completed)

*SSHRC Master's fellowship winner
**Killam doctoral fellowship award winner (honorary; Mr. Cor could not hold this award at Stanford University)
***SSHRC doctoral fellowship award winner (Note: Ms. Luhanga took up the award at Queen's University; Ms. Nguyen took up the award at UBC; Mr. Cor took up the award at Stanford University)
[t]CIHR master's award winner.

Doctoral Students (Supervisory Committee)

- (2024 – Present) Ka Yuk (Rose) Yam Music (DMus)
- (2023 - present) Rachel Munk Human Ecology (Completed)
- (2023 – present) Jessica Eriksen Educational Psychology
- (2022-2024) Hao-Yue Jin Educational Psychology (Completed)
- (2018-present) Heather Gautreau Educational Psychology (Completed)
- (2018-2021) Carley Borza Educational Psychology (Completed)
- (2015-2018) Qi Guo Educational Psychology (Completed)
- (2016-2020) Christopher Charles Secondary Education (Completed)
- (2014-2015) Paul Butakor Educational Psychology (Completed)
- (2013-2018) Karon Dragon Educational Psychology (Completed)
- (2012-2016) Gertrude Aberdeen Educational Psychology (Completed)
- (2009-2013) Hollis Lai Educational Psychology (Completed)
- (2008-2011) Cecilia Alves Educational Psychology (Completed)
- (2006-2008) Kathryn O'Grady-Morris Secondary Education (Completed)
- (2004-2007) Lingyun Gao Educational Psychology (Completed)
- (2004-2006) David Slomp*** Secondary Education (Completed)

- (2004-2011) Lynne Kostiuk Educational Psychology (Completed)
- (2004-2006) Kathryn Ricker Educational Psychology (Completed)
- (2001-2002) Gautam Puhan Educational Psychology (Completed)

***Winner of the 2007 Phi Delta Kappan/Faculty of Education Dissertation Award

Doctoral Students (Candidacy and/or Dissertation Examiner)

- (2025) Jessica Joseph Educational Psychology (Completed)
- (2024) Wenran Li Human Ecology
- (2018/2020) Aamena Kapasi Educational Psychology (Completed)
- (2016) Lindsey Krawchuk Educational Psychology (Completed)
- (2013-2016) Todd Sumner Educational Psychology (Completed)
- (2013) Richelle Marynowsky Secondary Education (Completed)
- (2010) Jiawen Zhou Educational Psychology (Completed)
- (2009) Joel Buenting Philosophy (Completed)
- (2009) Carley Piatt Psychology (Completed)
- (2007) Jody Sherman Psychology (Completed)
- (2006, 2007) Changjiang Wang Educational Psychology (Completed)
- (2005) Jessica Whitley Educational Psychology (Completed)
- (2005, 2007) Ursula Gardynik Educational Psychology (Completed)
- (2004, 2006) John Macnab Educational Policy Studies (Completed)
- (2004) Huiqin Hu Educational Psychology (Completed)
- (2003, 2005) Tim McCLellan Educational Psychology (Completed)

Doctoral Students (External Examiner)

- (2022) Katri Kleemola Dept. of Education (Cognition, Learning, Instruction and Communication); University of Helsinki (Finland; Completed)
- (2015) Claude Alie Dept. of Educational and Counselling Psychology, McGill University (Completed)
- (2014) Karen Roux Dept. of Science, Mathematics, and Technology Education, University of Pretoria, South Africa (Completed)
- (2014) Juliette Lyons-Thomas Dept. of Educational & Counselling Psychology, and Special Education, University of British Columbia (Completed)
- (2009) Salman Mufti Dept. of Educational and Counselling Psychology, McGill University (Completed)
- (2006) Zhidong Zhang Dept. of Educational and Counselling Psychology, McGill University (Completed)

Master's Students (Thesis Examiner)

- (2025) Anyu Wang Educational Psychology (Completed)
- (2023) Kendra Wells Educational Psychology (Completed)
- (2017) Alexandra Aquilina Educational Psychology (Completed)
- (2017) Jona Frohlich Educational Psychology (Completed)
- (2014) Jessica Blake Educational Psychology (Completed)
- (2014) Lei Zhao Educational Psychology (Completed)

- (2004) Kathy Stephenson Educational Psychology (Completed)

Master's Students (Course-based Project Second Reader)

- (2016) Delcy Rolheiser Secondary Education (Completed)

CURRENT/PREVIOUS MEMBERSHIPS IN PROFESSIONAL/NONPARTISAN ORGANIZATIONS

Heterodox Academy - CURRENT
International Academy of Education - CURRENT
College of Alberta Psychologists (CAP) – CURRENT
Canadian Society for Studies in Education (CSSE) – CURRENT

American Educational Research Association (AERA) - PAST
National Council on Measurement in Education (NCME) - PAST