

Curriculum Vitae
Nancy C. Lavigne, Ph.D.
Associate Professor

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ACADEMIC BACKGROUND

Degrees

- Ph.D. Educational Psychology (2000), McGill University, Montréal, PQ, Canada
Major in Applied Cognitive Science with a Minor in Instructional Psychology
Dissertation Title: *Project-based Investigations for Producing and Critiquing Statistics* (Chair: Susanne P. Lajoie)
- M. A. Educational Psychology (1994), McGill University, Montréal, PQ, Canada
Major in Applied Cognitive Science
Thesis Title: *Authentic Assessment: A Library of Exemplars for Enhancing Statistics Performance* (Chair: Susanne P. Lajoie)
- B. A. Psychology (1991), McGill University, Montréal, PQ, Canada

Honors

- 1998 McGill University Social Sciences Dissertation Grant
McGill University Alma Mater Student Travel Award
- 1997-1998 Social Sciences and Humanities Research Council of Canada Doctoral Fellowship (SSHRC) (National competition)
- 1997 Telelearning/Networks of Centres of Excellence (NCE) Award for Best Computer Demonstration at the conference- 2nd Prize (see Publications for complete reference)
- 1994-1997 Fonds pour la Formation de Chercheurs et l'Aide à la Recherche Doctoral Fellowship (FCAR) (Provincial competition)

PROFESSIONAL WORK EXPERIENCE

- 2009-present Associate Professor, Learning Sciences (formerly CDI)
School of Education
University of Delaware, Newark, DE
- 2002-2009 Assistant Professor, Cognition, Development, and Instruction (CDI)
School of Education
University of Delaware, Newark, DE
- 1999-2002 Postdoctoral Fellow
Learning, Research, and Development Center (LRDC)
University of Pittsburgh, Pittsburgh, PA
- 1992-1999 Graduate Research Assistant
Dept. of Educational and Counselling Psychology
McGill University, Montréal, Québec, Canada
- 1996-1997 Teaching Assistant (Research Methods and Introductory Statistics)
Dept. of Educational and Counselling Psychology
McGill University, Montréal, Québec, Canada

SCHOLARSHIP

PUBLICATIONS

Articles in Refereed Journals

- Yan, J., & Lavigne, N. C. (2014). Promoting college students' construction of statistics problem schemata using schema-emphasizing worked examples. *Journal of Experimental Education*, 82, 74-102.
- Lavigne, N. C., Salkind, S. J., & Yan, J. (2008). College students' mental representations of inferential statistics. *Journal of Mathematical Behavior*, 27, 11-32.
- Lavigne, N. C., & Lajoie, S. P. (2007). Statistical reasoning of middle school children engaged in survey inquiry. *Contemporary Educational Psychology*, 32, 630-666.
- Lavigne, N. C. (2005). Mutually informative measures of knowledge: Concept maps plus problem sorts in statistics. *Educational Assessment*, 10, 33-71.
- Lajoie, S. P., Lavigne, N. C., Guerrero, C., & Munsie, S. D. (2001). Constructing knowledge in the context of Bioworld. *Instructional Science*, 29, 155-186.
- Lavigne, N. C., & Lajoie, S. P. (1996). Communicating performance standards to students through technology. *Mathematics Teacher*, 89 (1), 66-69.
- Lajoie, S. P., Jacobs, V. J., & Lavigne, N. C. (1995). Empowering children in the use of statistics. *Journal of Mathematical Behavior*, 14, 401-425.

Chapters in Edited Books

Lavigne, N. C., & Mouza, C. M. (2013). Epilogue: Designing and integrating emerging technologies for learning, collaboration, reflection, and creativity. In C. M. Mouza & N. C. Lavigne (Eds.), *Emerging technologies for the classroom: A learning sciences perspective*. New York, NY: Springer.

Mouza, C. M., & Lavigne, N. C. (2013). Introduction to emerging technologies for the classroom: A learning sciences perspective. In C. M. Mouza & N. C. Lavigne (Eds.), *Emerging technologies for the classroom: A learning sciences perspective*. New York, NY: Springer.

Ginsburg-Block, M., Rohrbeck, C., Lavigne, N. C., & Fantuzzo J. W. (2008). Peer assisted learning: An academic strategy for enhancing motivation among diverse students. In C. Hudley and A. E. Gottfried (Eds.), *Academic motivation and the culture of schooling in childhood and adolescence* (pp. 247-274). Oxford University Press.

Lavigne, N. C., & Lajoie, S. P. (2008). Communicating performance standards to students through technology. In P. C. Elliot and C. M. Elliot Garner (Eds.), *Getting into the mathematics conversation: Valuing communication in mathematics classrooms. Readings from NCTM's school-based journals* (pp. 363-367). National Council of Teachers of Mathematics: Reston, VA. [Reprint of a previously published peer reviewed journal article, see Lavigne & Lajoie, 1996]

Ginsburg-Block, M., Rohrbeck, C., Fantuzzo J. W., & Lavigne, N. C. (2006). Peer assisted learning strategies. In G. Bear & K. Minke (Eds.), *Children's needs III: Understanding and addressing the developmental needs of children* (pp. 525-536). Bethesda, MD: National Association of School Psychologists.

Lajoie, S. P., Lavigne, N. C., Munsie, S. D., & Wilkie, T. V. (1998). Monitoring student progress in statistics. In S. P. Lajoie (Ed.), *Reflections on statistics: Agendas for learning, teaching, and assessment in K-12* (pp. 199-231). Mahwah, NJ: Erlbaum.

Book Series

Mouza, C., & Lavigne, N. C. (in progress). *Research, Innovation & Methods in Educational Technology*. Charlotte, NC: Information Age Publishing.

Books

Mouza, C., & Lavigne, N.C. (Eds.). (2013). *Emerging technologies for the classroom: A learning sciences perspective*. New York, NY: Springer.

Encyclopedia Articles

Lajoie, S. P., & Lavigne, N. C. (2003). Mathematics learning: Learning tools. In J. W. Guthrie (Ed.), *Encyclopedia of Education, Second Edition, Volume 5* (pp. 1550-1552). New York: Macmillan Reference USA.

Conference Proceedings

- Yan, J., & Lavigne, N. C. (2006). College students' representations of calculus problems. In R. Sun (Ed.), *Proceedings of the 28th Annual Conference of the Cognitive Science Society* (p. 2630). Mahwah, NJ: Erlbaum.
- Lavigne, N. C., & Lajoie, S. P. (2002). Factors affecting student decision-making on statistics projects. In B. Phillips (Ed.), *Developing a Statistically Literate Society*. CD of the Proceedings of the Sixth International Conference on Teaching Statistics (ICOTS-6). Voorburg: The Netherlands: International Association for Statistical Education.
- Lavigne, N. C. (1999). Critiquing Statistics for reasoning about statistical investigations. In C. Desmoulins (Ed.), *Young Researcher Track Proceedings. Open Learning Environments: New Computational Technologies to Support Learning* (pp. 31-32). AI-ED Society.
- Lavigne, N. C., & Lajoie, S. P. (1995). Learning statistics through exemplars. In J. D. Moore & J. F. Lehman (Eds.), *Proceedings of the Seventeenth Annual Conference of the Cognitive Science Society* (pp. 643-647). Mahwah, NJ: Erlbaum.

Technical Reports

- Lavigne, N. C., & Glaser, R. (2003). *Assessing expert knowledge representations of introductory statistics* (Tech. Rep. No. 600). Los Angeles, California: UCLA, National Center for Research on Evaluation, Standards, and Student Testing (CRESST).
- Lavigne, N. C., & Glaser, R. (2001). *Assessing student representations of inferential statistics problems* (Tech. Rep. No. 553). Los Angeles, California: UCLA, National Center for Research on Evaluation, Standards, and Student Testing (CRESST).
- Lavigne, N. C., & Glaser, R. (2001). *Students' conceptual knowledge for deciding which statistical analysis is appropriate*. Technical report for the National Center for Research on Evaluation, Standards, and Student Testing (CRESST).

Unpublished Manuscripts

- Lavigne, N. C. (2002). *A preliminary examination of experienced teacher and researcher descriptions of teaching and learning events*. Learning Research and Development Center (LRDC) report, Pittsburgh, PA.
- Lavigne, N. C. (2000). *Project-based investigations for producing and critiquing statistics*. Unpublished Ph.D. thesis, McGill University, Montréal, Québec, Canada.

Manuscripts in Preparation

- Lavigne, N. C., & Yan, J. *Examining college students' problem representations and strategies for studying worked examples and categorizing statistics word problems*.

CONFERENCE PRESENTATIONS

- Lavigne, N. C., Mouza, C., Dagher, Z., Mead, H., Buckley, J., Pollock, L., Cirillo, M., & Roberts, D. (2016, April). *Learning to teach engineering design by being a designer*. Poster presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Yan, J., & Lavigne, N. C. (2011, April). *Studying worked examples enhances college students' problem understanding and aligns confidence with performance*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Song, Y., & Lavigne, N. C. (2006, April). *The effect of feedback from reviewers with differing experience in writing persuasively on eighth grade students' revision and persuasive writing*. Poster presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Lavigne, N. C., & Salkind, S. (2005, April). *What can we learn about representation through problem sorts and concept maps?* Poster to be presented to the annual meeting of the American Educational Research Association, Montréal, Québec, Canada.
- Lavigne, N. C., & Lajoie, S. P. (2003, April). *Benefits of multiple instructional phases in a project-based environment for learning descriptive statistics*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Lavigne, N. C., & Glaser, R. (2001, April). *Variability in student representations of statistics problems*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
- Lavigne, N. C., & Lajoie, S. P. (2000, April). *Design issues for scaffolded learning environments (SLEs)*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Lajoie, S. P., & Lavigne, N. C. (1999, April). *The use of models for enhancing statistical understanding*. Paper presented at the annual meeting of the Educational Research Association, Montreal, PQ, Canada.
- Lajoie, S. P., Lavigne, N. C., Guerrero, C., & Munsie, S. D. (1998, April). *Constructing knowledge in the context of Bioworld: What situations produce better opportunities for learning?* Paper presented at the annual meeting of the Educational Research Association, San Diego, CA.
- Lavigne, N. C., & Lajoie, S. P. (1998, April). *Critiquing Statistics: Technology for fostering reasoning about statistical investigation*. Paper presented at the annual meeting of the Educational Research Association, San Diego, CA.
- Lajoie, S. P., Guerrero, C., Lavigne, N. C., & Meilleur, L. (1997, November). *Distributed Cognition using BioWorld*. Computer demonstration presented at the second annual conference of the Telelearning Network of Centres of Excellence, Toronto, On.

Lajoie, S. P., Munsie, S. D., & Lavigne, N. C. (1996, April). *The relationship between evidence and argumentation in BioWorld*. Paper presented at the annual meeting of the American Educational Research Association, New York, NY.

Lavigne, N. C., & Lajoie, S. P. (1995, July). *Learning statistics through exemplars*. Poster presented at the Seventeenth Annual Conference of the Cognitive Science Society, Pittsburgh, PA.

Lajoie, S. P., & Lavigne, N. C. (1994, April). *How does group composition and gender influence the learning of statistics?* Poster presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Lavigne, N. C., Lajoie, S. P., Munsie, S. D., & Wilkie, T. V. (1994, April). *Authentic assessment of statistical reasoning in cooperative learning groups*. Poster presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Lajoie, S. P., Lavigne, N. C., & Lawless, J. (1993, April). *The use of hypercard for facilitating assessment: A library of exemplars for reifying statistical concepts*. Poster presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Lajoie, S. P., Lawless, J., Lavigne, N. C., & Munsie, S. D. (1993, April). *New ways to measure problem solving, reasoning, connectedness, and communication*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

GRANTS/INTERNAL FUNDING

Lavigne, N. C., Pemberton, E. F., & Golinkoff, R. (2005). *In-service learning in elementary teacher education*. University of Delaware, Instructional Grant on Service Learning (\$12, 227).

Lavigne, N. C. (2004). *Assessment of teacher and student representations of statistical content*. University of Delaware, General University Grant (GUR) (\$6, 000)

TEACHING

COURSES TAUGHT

University of Delaware

| | |
|--------------|---|
| EDUC205: | Human Development: Grades K-8 |
| EDUC203: | Human Development II: Grades 5-8 |
| EDUC202: | Human Development I: Grades K-4 |
| EDUC413/613: | Adolescent Development and Educational Psychology |
| EDUC623: | Applied Human Development in the Schools |
| EDUC821: | Cognition and Instruction |
| EDUC857: | Teaching in Higher Education |

McGill University

Winter 1998 Guest Lecturer, Computers in Education (graduate level) and Technology for Teachers (undergraduate level)

- Fall 1997 Teaching Assistant and Lab Instructor, Intermediate Statistics (graduate level)
 Fall 1996 Teaching Assistant, Research Methods (graduate level)
 Fall 1995 Teaching Assistant, Educational Foundations (graduate level)

ADVISING

Doctoral Advisor/Chair

- 2012-present Ed.D. Advisor, Kasandra Moye
 2015-present Ed.D. Advisor, Meaghan Davidson
 2014-present Ed.D. Advisor, Heather Brooks
 2003-2010 Ph.D. Research Advisor, Yan Jie
The effectiveness of schema-emphasizing worked examples in promoting statistical problem schema construction.
 2003-2005 Ph.D. Research Advisor, Song Yi
 2004-2006 Ph.D. Academic Advisor, Wilkey Wong

Doctoral Committees

- 2017-present Hui Yang, University of Delaware (Ph.D.)
 2016-present Yueyue Fan, University of Delaware (Ph.D.)
 2014-present Yi-Chen Pan, University of Delaware (Ed.D.)
 2014-2016 Michael Reichert, University of Delaware (Ed.D.)
 2014-2016 Nader Makarious, University of Delaware (Ed.D.)
 2012-2013 Rita Ann Laske, University of Delaware (Ed.D.)
 2010-present Jeff Klein, University of Delaware (Ed.D.)
 2010-2014 Sharon Basso, University of Delaware (Ed.D.)
 2010-present Helene Delpéche, University of Delaware (Ph.D., Cognition Development and Instruction)
 2005-2011 Yi Song, University of Delaware (Ph.D., Cognition Development and Instruction)
 2005-2007 Rebecca Mattern, Ph.D., University of Delaware (Cognition Development and Instruction)
 2004-2006 Julie Kittleson, Ph.D., University of Delaware (Science Education)

Master of Instruction Advising

- 2004-2005 Master of Instruction (MI) (Sarah Johnson)

Independent Studies/CHEP Scholar at Undergraduate Level

- 2002 EDUC366, Independent Study (Carrie Connor)
 2005-2006 EDUC466, Independent Study for CHEP Scholar (Danielle Ward)

SERVICE

PROGRAMS

University of Delaware

- 2011-2014 Learning Sciences (formerly CDI) Coordinator, University of Delaware
 2010-2011 Cognition, Development, and Instruction (CDI) Coordinator, University of Delaware
 2009-2010 Cognition, Development, and Instruction (CDI) Interim Coordinator, University of Delaware

2003-2012 Master of Instruction Program, Admissions Coordinator, University of Delaware

COMMITTEES

University of Delaware

2016-2017 School of Education Committee of Undergraduate Studies in Education (CUSE) (Chair in 2017)

2014-2016 School of Education Graduate Studies Committee, University of Delaware (Chair)

2014-2016 School of Education Doctoral Core Committee

2013 School of Education Promotion & Tenure Committee

2012-2013 College of Education and Human Development Promotion & Tenure Committee

2011-2012 College Council

2009 Ad-hoc Director Committee/group

2007-2010 School of Education Graduate Studies Committee, University of Delaware (Chair in 2009-2010)

2005-2006 Executive Committee, University of Delaware

2004 Cognition, Development, & Instruction, Admissions, University of Delaware

2003-2005 School of Education Graduate Studies Committee, University of Delaware

2003-2004 School of Education Doctoral Core Committee, University of Delaware

McGill University

1996-1997 Doctoral Student Member of the Library Advisory Committee, Faculty of Education, McGill University, Montréal, Québec, Canada

REVIEWING

2014-present Reviewer for the *Journal of Experimental Education*

2011-present Reviewer for the journal *Educational Assessment*
Panel Reviewer for Division C proposals of the American Educational Research Association (AERA)

2011 Reviewer for a special issue of *Mathematical Thinking and Learning*
Reviewer for a National Science Foundation (NSF) grant proposal

2010-present Reviewer for the *European Journal of Psychology of Education* (EJPE)

2010-present Reviewer for *Educational Psychology*

2009-2010 Panel Reviewer for Division C (Science Education) proposals of the *American Educational Research Association (AERA)*

2007-present Reviewer for *Mathematical Thinking and Learning*.

2006-2008 Reviewer for *Cognition and Instruction*

2003 Reviewer for a special issue of *Mathematics Education Research Journal* on stochastics education.

2002 Developmental Reviewer for a special issue of *Educational Researcher* on expertise, Adhoc Reviewer for the *Journal of the Learning Sciences*

2001 Adhoc Reviewer for the *American Educational Research Journal*

2000-2009 Proposal Reviewer for the American Educational Research Association meetings

- 1998-present Reviewer for the *Journal of Educational Computing Research (JECR)*
1998-2000 Proposal Reviewer for the Cognitive Science Society
1999 Proposal Reviewer for the 19th Annual Artificial Intelligence in Education
Conference
1993-1995 Doctoral Student Member of Student Affairs Committee, Dept. of Educational &
Counseling Psychology, McGill University
1994 Proposal Reviewer for the American Educational Research Association 1995
meeting, Division C, Section 6 (Technology)

ORGANIZATIONAL MEMBERSHIPS

American Educational Research Association (AERA)