

**Heather J. Lavigne**  
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### **PROFESSIONAL PREPARATION**

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University of Massachusetts, Amherst	Developmental Science/ Quantitative Methodology	Ph.D., 2014
University of Massachusetts, Amherst	Developmental Science	M.S., 2012
Harvard University	Technology in Education	M.Ed., 2005
University of Massachusetts, Amherst	Communication	B.A., 2004

### **PROFESSIONAL EXPERIENCE**

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#### **Research Scientist (2013-present)**

Education Development Center, Waltham, MA

- Researcher/Principal Investigator, lead studies in fulfillment of research plans for the Institute for Education Sciences (IES)-funded projects, Regional Educational Laboratory Northeast and Islands and Regional Educational Laboratory Midwest.
- Principal Investigator, *The Development of Computational Literacy through the Integration of Computational Thinking and Early Language and Literacy Development in Urban Preschools*, an NSF-funded collaborative research project to investigate what computational thinking learning opportunities already exist for children and how they can be integrated into existing storytelling and literacy activities. EDC is partnered with the WGBH Educational Foundation.
- Co-Principal Investigator, *Ruff Family Science*, an NSF-funded project to investigate the needs of programs focused on supporting intergenerational science learning. EDC is partnered with the WGBH Educational Foundation, and its media series *The Ruff Ruffman Show*, to develop activity prototypes to support science learning for families in a wide-range of educational contexts
- Co-Principal Investigator, *Digital Media and Parent/Child Engagement Resources to Increase Preschool Computational Thinking*, NSF-funded, collaborative project to investigate research-driven approaches to support the informal teaching and learning of computational thinking concepts and skills in young children.
- Co-Principal Investigator, *Exploring Touch-Screen Digital Media and Non-Digital Activities to Support Teaching and Learning of Computational Thinking in Preschool Classrooms*, NSF-funded, collaborative project to investigate research-driven approaches to support the teaching of computational thinking concepts and skills in formal learning environments.

- Co-Principal Investigator, evaluation planning for Vermont's Mentoring, Advising, Teaching, Coaching, Consulting, Helping (MATCH) Network.

**Research Methodology Consulting Associate (2012-2014)**

Center for Research on Families, UMASS Amherst

- Provided research guidance and support to scholars, Psychology and College of Natural Sciences faculty, and CRF affiliates including research design, data preparation and analysis, interpretation of results, and formal presentation of results including method, results, and planned analysis sections of papers and grants.

**Adjunct Faculty, Human Development (2012-2013)**

Greenfield Community College, Greenfield, MA

- Served as instructor for Principles of Psychology and Human Growth and Development.
- Tailored courses to provide opportunities for differentiated instruction and personalized learning.
- Responsible for all aspects of course design and administration.
- Course evaluation results available upon request.

**Graduate Research Assistant (2008-2014)**

Children & Media Laboratory - UMASS Amherst

- Managed undergraduate research assistants alongside lab founder and Principal Investigator, Dr. Daniel Anderson, on various research projects aimed at understanding the impact of media on the cognitive development of young children.
- Oversaw day-to-day operations of research activities, RA schedules, and review of students' lab activities.
- Mentored three undergraduates in the development of honors thesis projects.

**Director of Education (2006-2013)**

WGBY d.b.a. WGBH Educational Foundation, Springfield, MA

- Served as full-time Director of Education on grant-funded initiatives that serve local children, parents, preK-16 educators, and lifelong learners.
  - Charged with the implementation of educational initiatives in the areas of early childhood education, after-school literacy promotion, and educator professional development.
  - Authored successful grant proposals and served as project lead for federally funded grant programs such as PBS TeacherLine, Ready to Learn, and Ready to Lead in Literacy.
  - Trained formal and informal educators, outreach professionals, parents in the usage of educational technology and the integration of resources into educational programs.
  - Oversaw the organization's Video Lending Library services for educators through the Massachusetts Library Systems Interlibrary Loan program.
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## TEACHING EXPERIENCE

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### **Critical Approaches to Children & the Media**, Fall 2013

University of Massachusetts Amherst

- Served as Teaching Associate for upper-level undergraduate writing course based in the content area of children and media.
- Responsible for content integration into the campus wide Junior Writing course framework, student instruction, and grading.

### **Human Growth and Development**, Fall 2012, Spring 2013

Greenfield Community College

- Survey course covering human physical, psychological, and social development from birth through death.
- Course elements included active student participation, non-cumulative exams, short homework assignments, daily assignment questions, a course portfolio, and a final paper of the student's choosing (an oral history, ideal environment to raise a child, or persuasive paper on a developmental topic).

### **Principles of Psychology**, Fall 2012

Greenfield Community College

- Served as adjunct instructor for introductory survey course covering foundations of psychology, scientific method, neurobiology, learning, memory, development, psychological disorders, treatment, and other topics in psychology.
- Course elements included active student participation, non-cumulative exams, interactive in-class activities, daily assignment questions, short homework assignments, and an annotated bibliography on a psychological research area of students' choosing.

### **P.O.W.E.R. Up**, Summer 2012, Summer 2013

University of Massachusetts Amherst

- Lead 3-day workshop for first year undergraduates as an introduction to college in topics.
- Presented activities and resources for college readiness including time management skills, positive academic habits, lifestyle changes, and campus resources.

### **Using Multimedia to Develop Understanding**, Fall 2009

Public Broadcasting Service (PBS)

- Served as course facilitator for online professional development sponsored by the MA Department of Education for 21 K-12 teachers in Massachusetts delivered through Moodle.
- Supported learners through 6-week structured course, grading all assignments, moderating online discussion forums, and providing final grades.

### Teaching Assistantships

#### **Hierarchical Linear Modeling**, Fall 2012

University of Massachusetts Amherst

- Responsible for designing and running the computer lab component of the course, grading student assignments, implementing conversion of course website content from SPARK to Moodle platform, and providing assistance to students throughout the course with both multilevel modeling theory as well as HLM program support.
- Instructor: Aline G. Sayer, Ed.D.

#### **Structural Equation Modeling**, Spring 2012, Spring 2013

University of Massachusetts Amherst

- Responsible for designing and running the computer lab portion of course, grading students' assignments, and providing one-on-one assistance with course material, particularly with troubleshooting LISREL programming or model design.
- Instructor: Aline G. Sayer, Ed.D.

#### **Statistical Inference in Psychology I & II (Graduate Stats)**, Fall 2011, Spring 2012

University of Massachusetts Amherst

- Held office hours to provide support for students to better understand lecture material. Responsible for running structured computer labs to demonstrate statistical analyses in SPSS and for grading student quizzes and assignments.
- Instructor: David H. Arnold, Ph.D.

#### **Child Psychology**, Fall 2010, Fall 2009

University of Massachusetts Amherst

- Responsible for supervising two undergraduate teaching assistants in their efforts to provide study groups for students.
- Oversaw attendance procedures with student response systems in large lecture of 340 students in Fall 2010 and 426 students in Fall 2009. Wrote drafts of exams for instructor review. Supervised the maintenance of the online grade book in SPARK course management system.
- Instructors: Matt Davidson, Ph.D., Lisa Scott, Ph.D.

### **PUBLICATIONS**

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**Lavigne, H.J.**, Ryan, S., Zweig, J.S., Buffington, P.J. (2017). *Exploring district-level expenditure-to-performance ratios*. Washington, DC: US Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. Retrieved from <http://ies.ed.gov/ncee/edlabs>.

- Ryan, S., **Lavigne, H.J.**, Zweig, J.S., Buffington, P.J. (2017) *A guide to calculating district expenditure-to-performance ratios using publicly available data*. Washington, DC: US Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. Retrieved from <http://ies.ed.gov/ncee/edlabs>.
- Lavigne, H. J.**, Shakman, K., Zweig, J., & Greller, S. L. (2016). *Principals' time, tasks, and professional development: An analysis of Schools and Staffing Survey data (REL 2017–201)*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. Retrieved from <http://ies.ed.gov/ncee/edlabs>.
- Pazzaglia, A. M., Clements, M., **Lavigne, H. J.**, & Stafford, E. T. (2016). *An analysis of student engagement patterns and online course outcomes in Wisconsin (REL 2016–147)*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. Retrieved from <http://ies.ed.gov/ncee/edlabs>.
- Kirkorian, H. L., **Lavigne, H. J.**, Hanson, K. G., Troseth, G., Demers, L. B., & Anderson, D. R. (2016). Video deficit in toddlers' object retrieval: What eye movements reveal about online cognition. *Infancy, 21*, 37-64.
- Lavigne, H.J.**, Hanson, K.G., & Anderson, D.R. (2015). The influence of television coviewing on parent language directed at toddlers. *Journal of Applied Developmental Psychology, 36*, 1-10.
- Anderson, D.R., **Lavigne, H.J.** & Hanson, K.G. (2013). The educational impact of television: Understanding television's potential and limitations. In A.N. Valdivia & E. Scharrer (Eds.), *The international encyclopedia of media studies. Vol. 5: Media effects / Media Psychology* (pp. 635-656). Malden, MA: Wiley-Blackwell.
- Lavigne, H.J.**, & Anderson, D.R. (2012). Television and children's knowledge. In Pinkham, A., Kaefer, T., Neuman, S.B. (Eds.), *Knowledge Development in Early Childhood: How Young Children Build Knowledge and Why It Matters*. New York, NY: Guilford Press.

## PROFESSIONAL PRESENTATIONS

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- Lavigne, H.J.**, Orr, J., Wolsky, M. (2018). Exploring Computational Thinking in Preschool Math Learning Environments. Roundtable presented at the Society for Information Technology and Teacher Education's Annual Conference: Washington, DC.
- Zweig, J. **Lavigne, H.J.**, & Shields, K. (2017). Using NCES Data When State or

- District Data Are Not Available: Two REL Studies. Panel presented at The National Center for Education Statistics' 2017 STATS-DC Data Conference.
- Clements, P., **Lavigne, H.J.**, Pazzaglia, A., Stafford, E. (2017) Investigating the Relationship Between Students' Online Engagement and Their Online Course Outcomes. Roundtable discussion presented at Annual Meeting of American Educational Research Association: Washington, DC.
- Lavigne, H.J.**, Greller, S. L., Waterman Irwin, C., Goodyear, L. (2016). Balancing the Varied Needs of Complex Evaluation Clients: Avoiding Silos and Establishing Strategies for Success. Session presented at the American Evaluation Association's 2016 Annual Conference.
- Anderson, D. R., Hanson, K. G., **Lavigne, H. L.**, & Gover, S. (2015). *Parent language during shared TV viewing compared to other activities*. Paper presented at biennial meeting of the Society for Research in Child Development, Philadelphia, PA.
- Pazzaglia, A. M., **Lavigne, H.J.**, Carey, R., Seager, A., & Riordan, J. (2014, September). *Collaborative research alliances: Defining and tracking outcomes for researchers and practitioners*. Paper presented at the Society for Research on Educational Effectiveness' fall 2014 conference, Washington, D.C.
- Lavigne, H.J.**, Hanson, K.G., Chou, M.W., & Anderson, D.R. (2013). The Impact of Educational Television Content on Young Children's Play. Poster presented at the biennial meeting of the Society for Research in Child Development.
- Hanson, K.G., **Lavigne, H.J.**, Gover, S., Anderson, D.R. (2013). Differential Effects of Media on Parent Language. Poster presented at the biennial meeting of the Society for Research in Child Development.
- Hanson, K.G., **Lavigne, H.J.**, Anderson, D.R. (2013). The Influence of Television Content on 15-month olds' Toy Play. Poster presented at the biennial meeting of the Society for Research in Child Development.
- Kirkorian, H.L., Hanson, K.G., **Lavigne, H.J.**, Demers, L.B., Lauricella, A.R., Gola, A., Anderson, D.A., Calvert, S.L. (2012, June). Toddlers' Processing of Familiar and Novel Video Characters: An Eye Movement Study. Poster presented at the annual meeting of the International Society on Infant Studies.
- Kirkorian, H.L., **Lavigne, H.J.**, Hanson, K.G., Demers, L.B., Troseth, G., & Anderson, D.A. (2012, June). Toddlers' Object Retrieval Using In-Person Versus Video Displays: An Eye Movement Study. Poster presented at the annual meeting of the International Society on Infant Studies.
- Hanson, K.G., **Lavigne, H.J.**, & Anderson, D.A. (2012, June). The influence of television on young children's toy play. Poster presented at the annual meeting of the International Society on Infant Studies.

Kirkorian, H.L., **Lavigne, H.J.**, Hanson, K.G., Demers, L.B., Troseth, G., & Anderson, D.A. (2011, May). Toddlers' visual attention to and learning from television: An eye movement study. Virtual paper presented at the annual meeting of the International Communication Association.

**Lavigne, H.J.**, Hanson, K.G., Pempek, T.A., Kirkorian, H.L., Demers, L.B., & Anderson, D.R. (2011, March). Baby video viewing and the quantity and quality of parent language. Poster presented by the lead author at the biennial meeting of the Society for Research in Child Development.

**Lavigne, H.J.**, Hanson, K.G., Pempek, T.A., Kirkorian, H.L., & Anderson, D.R. (2010, April). The Impact of Baby Videos on the Quantity and Quality of Parent Language. An oral presentation given by the lead author at the annual meeting of the Conference on Human Development.

#### **SELECT METHODOLOGICAL CONSULTING EXPERIENCE**

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##### **Statistical Consultant (2013 - 2014)**

- Conducted statistical analyses for Dr. John Carey's funded Institute of Educational Sciences grant "*A Randomized Controlled Trial of Student Success Skills: A Program to Improve Academic Achievement for All Students Social and Behavioral Context for Academic Learning.*" Changes in teacher perceptions of student behavior (e.g. engagement, inattention, self control, etc.) were conducted following an intervention using hierarchical linear modeling (HLM). Performed analyses and wrote an interpretation of results.

##### **Statistical Consultant (2013-2014) – TERC, Cambridge, MA**

- Advised STEM Education Evaluation Center (SEEC) on various STEM-focused research and evaluation projects.
- Services included research design consultation, data analysis, and interpretation of results.

##### **Dissertation/Thesis Consultant (2012-2014)**

- Provides mentoring and support regarding statistical analyses for Psy.D. and Ph.D. students working on dissertation and thesis projects. Project assistance was provided with ANOVA, MANOVA, multiple regression, longitudinal modeling, structural equation modeling, as well as the use of various statistical analysis packages.

#### **PROFESSIONAL SERVICE**

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**National Science Foundation (2017) STEM+C Proposal Panel Reviewer**

**Institute for Education Sciences: What Works Clearinghouse Group Design Standards 3.0 & 4.0 Reviewer Certification (2017)**

**American Evaluation Association (2017)** Conference submission reviewer

**American Educational Research Association (2016-2017)** Conference submission reviewer

**Leader – Research and Evaluation Community (2015-2017)** – Education Development Center

**Home City Families Advisory Council (2012)** Served on advisory committee for the implementation of a Springfield early learning and family services grant

**New Graduate Student Orientation Committee (2011)** Oversaw efforts to inform students entering UMASS Psychology graduate program

**PBS/Ready to Learn (2010)** Research consultation on preschool children’s learning from prosocial television

**PBS Kids (2010)** Formative research and report on pilot episode of prospective PBS Kids Math series

**Big Big Productions (2009)** Recommendations report for *It’s a Big Big World* preschool television series

**International Journal of Communication (2009)** Ad hoc Reviewer

**Springfield Early Literacy Coalition (2008 – 2013)** Serve on advisory council to executive community initiatives around Springfield’s Reading Success By Fourth Grade initiative

**National Educational Television Association (2008)** Awards Reviewer for submissions in the “Best Multimedia Educational Production” category

**PBS TeacherLine Course Facilitator (2006)** Trained formally as an online course facilitator, delivering several sections of online courses for pre-service and in-service educators for professional development, overseeing all grading of work and facilitating conversations through online discussion forum

**Pioneer Valley Science Technology Engineering and Mathematics Network (PVSTEMNET) Executive Committee (2006-2009)** Served on committee to review grant opportunities and assist the Network with promotion of teacher professional development