Dr. Jodi Asbell-Clarke

Proposal writing, program design, research and evaluation.

Dr. Jodi Asbell-Clarke, 2017.
We know more than we can tell.
TEDX talk Beacon Street. Boston, MA.

Having led national and international science educational research projects, I have developed a unique skill set including proposal writing, project vision and leadership, team building, quantitative and qualitative research, and facilitation.

I help research groups and educational organizations to design effective projects and write successful proposals, as well as provide support for project leadership, research, and evaluation.

Contact: **jodi@asbellclarke.ca**

Education

Rochester Institute of Technology

B.S. Computational Math 1983

Rice University

M.A. Applied Computational Math 1986

University of New Mexico

M.S. Astrophysics 1989

University of Toronto/OISE

Ph.D. Education/Curriculum, Teaching, & Learning 2011

Professional Appointments

TERC, Inc. Senior Researcher and Director 1995 - present

Principal investigator, lead proposal writer, and project director at an educational research non-profit. Lead a team of about 10 educators, researchers, and designers to conduct innovative research in inclusive STEM education. Brought in over US$13M of federal funds (NSF: US National Science Foundation).

Part-time Faculty, Saint Mary's University 2002 – present

Design and teach an online course to 240 students per year on Life in the Universe.

University of Illinois High School, Associate Faculty 1989-1992

Taught physics and astrophysics at a laboratory high school.

IBM, Verification Analyst, Onboard Space Shuttle Software 1983-1986

Developed programs to test and repair onboard navigation software for NASA's space shuttle.

Related Experiences

- Numerous proposal review panels for NSF. Chair of NSERC's PromoScience and CREATE proposal review committees.

- Advisory panels for George Lucas Foundation, NSF Center for Innovative Research in Cyberlearning (CIRCL); White House committee on STEM Learning and Disabilities.

- Led the NSF-supported Finnish-US Network (FUN) including international research exchanges and collaborations for educational researchers.

- Designed and facilitated collaborative design and planning sessions for university and non-profit research teams including multi-day retreats and ongoing visioning and planning sessions.

- Authored proposals for independent research teams including a $450K CFI grant to Saint Mary's University for a high performance computer used by inter-disciplinary teams.

Research Projects

Lead Principal Investigator on the following US National Science Foundation grants:

- NSF/CSforALL/#1738574: Personalized Computational Thinking for Grades 3-8: $996,36. 2018-2020

- NSF/DRK12/#1502882: Zoombinis: The Full Development Implementation Research Study of a Computational Thinking Game for Upper Elementary and Middle School Learners: $1,941,206. 2016-2019

- NSF/REAL/#1417967: Collaborative Research: Revealing the Invisible: Data-Intensive Research Using Cognitive, Psychological, and Physiological Measures to Optimize STEM Learning: $532,028. 2015-2019

- NSF/DRK12/#1119144: Leveling Up: Supporting and Measuring High School STEM Knowledge Building in Social Digital Games: $3,110,415. 2012-2017

- NSF/SAVI/#1252709: FUN: A Finland-US Network for Engagement and STEM Learning in Games" $295,578. 2013-2015

- NSF/DRK12/#1134919: Arcadia: The Next Generation - Transforming STEM Learning through Transmedia Games: $499,595. 2012-2016

- NSF/DRK12/#1043357: Arcadia Resource Center: Targeted research towards a Serious Games Pathway: $499,201. 201-2014

- NSF/ISE/#0917520: The Blue Mars Science Center: Designing a virtual science learning environment: $2,984,925. 2010-2013

- NSF/GDSE/RES/#0540444: Women's Science Equity Online: $964,114

- NSF/IMD/#0352180: Investigating Astronomy: A Unique High School Curriculum for All Students: $1,998,783

Selected Publications

Showing Is Knowing

Dahlstrom-Hakki, I., Asbell-Clarke, J., & Rowe, E. (2019). *Showing Is Knowing: The Potential and Challenges of Using Neurocognitive Measures of Implicit Learning in the Classroom.* Mind, Brain, and Education, 13(1), 30-40.

Assessing implicit science learning in digital games.

Rowe, E., Asbell-Clarke, J., Baker, R., Eagle, M., Hicks, A., Barnes, T., Brown, R., & Edwards, T., (2017). *Assessing implicit science learning in digital games.* Computers in Human Behavior, 76, 617-630. DOI: 10.1016/j.chb.2017.03.043

Building Bridges

Rowe, E., Bardar, E., & Asbell-Clarke, J., Shane-Simpson, C., & Roberts, S. (2016). Building Bridges: Teachers Leveraging Game-Based Implicit Science Learning in Physics Classrooms. In D. Russell & J. Laffey *Handbook of Research on Gaming Trends in P-12 Education.* Hershey, PA: IGI Global. doi:10.4018/978-1-4666-9629-7

Serious Game Analytics

Rowe, E., Asbell-Clarke, J. & Baker, R. (2015). Serious games analytics to measure implicit science learning. In C.S. Loh, Y. Sheng, & D. Ifenthaler (Eds.) *Serious Game Analytics: Methodologies for Performance Measurement, Assessment, and Improvement.* Springer Science+Business Media

Demystifying computational thinking.

Shute, V. J., Sun, C., & Asbell-Clarke, J. (2017). *Demystifying computational thinking.* Educational Research Review, 22, 142-158.

Learning by Playing

Asbell-Clarke, J., & Rowe, E. (2014). Scientific inquiry in digital games. In F. Blumberg (Ed.), *Learning by Playing: Frontiers of Video Gaming in Education* (pp. 246-260). New York: Oxford University Press.

Selected Presentations

We know more than we can tell.

Asbell-Clarke, J. *We know more than we can tell.* Boston, MA. TEDX talk Beacon Street. (2017, Nov).