Stanford

Jo Boaler

Nomellini and Olivier Professor in the Graduate School of Education

CONTACT INFORMATION

- **Admin. Support**

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Bio

BIO

Mathematics teaching and learning - in particular, how different teaching approaches impact students' learning, how to teach mathematics for a “growth mindset”, and how equity is promoted in mathematics classrooms. The role of groupwork and mathematical discussions in the development of understanding. The ways teachers may be supported in moving towards equitable and effective teaching environments. The importance of data science and ways to integrate data science into all subjects in school.

ACADEMIC APPOINTMENTS

- Professor, Graduate School of Education
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Endowed Chair, Graduate School of Education, Stanford University, (2019- present)
- The Nomellini-Olivier Professor of Education., Graduate School of Education, Stanford University, (2019- present)
- Professor, Graduate School of Education, Stanford University, (2010- present)
- Professor, Graduate School of Education, Stanford University, (2006-2006)
- Associate Professor, Graduate School of Education, Stanford University, (2000-2006)
- Assistant Professor, Graduate School of Education, Stanford University, (1998-2000)

HONORS AND AWARDS

- Walter Denham Mathematics Leadership award, California Mathematics Council (2015)
- Kay Gilliland Equity Award, National Council of Supervisors of Mathematics (2014)
- Early Career Award, National Science Foundation (1999)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Marie Curie Professor, The University of Sussex (2019 - present)
- Fellow, Center for Advanced Study in the Behavioral Sciences (2004 - 2005)

- Lecturer, Mathematics Education, King's College, London (2019 - present)
- Deputy Director Mathematics Assessment Team, King's College, London (2019 - present)
- Teacher of Mathematics, (ages 11-18), Inner London comprehensive schools (2019 - present)

PROFESSIONAL EDUCATION

- BSc, Liverpool University , Psychology (1985)
- MA, King's College, London University , Mathematics Education (1991)
- PhD, King's College, London University , Mathematics Education (1996)

LINKS

- Webpage: http://www.youcubed.org/

Research & Scholarship

RESEARCH INTERESTS

- Brain and Learning Sciences
- Collaborative Learning
- Data Sciences
- Diversity and Identity
- Educational Policy
- Equity in Education
- Gender Issues
- Math Education
- Motivation
- Parents and Family Issues
- Professional Development
- School Reform
- Teachers and Teaching
- Technology and Education

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Studying the Impact of a Mathematical Mindset Summer Intervention, HapCaps: Design and Validation of Haptic Devices for improving Finger Perception (with engineering & neuroscience) The effectiveness of a student online class (https://lagunita.stanford.edu/courses/Education/EDUC115-S/Spring2014/about) (NSF). Studies on mathematics and mindset with Carol Dweck and Greg Walton (various funders). Studying an online network and it's impact on teaching and learning (Gates foundation)

Teaching

COURSES

2023-24

- Curriculum and Instruction in Mathematics: EDUC 263B (Aut)
- How to Learn Mathematics: EDUC 115N (Aut)

2022-23

- Curriculum and Instruction in Mathematics: EDUC 263A (Sum)

2021-22

- Curriculum and Instruction in Mathematics: EDUC 263A (Sum)
- Curriculum and Instruction in Mathematics: EDUC 263B (Aut)
- Mathematical Mindsets - The Interplay of Identity & Knowledge in Learning & Life: EDUC 115N (Aut)

2020-21

- Curriculum and Instruction in Mathematics: EDUC 263A (Sum)
- Curriculum and Instruction in Mathematics: EDUC 263B (Aut)
- How to Learn Mathematics: EDUC 115N (Aut)

STANFORD ADVISEES

Doctoral Dissertation Advisor (AC)

Miriam Leshin, Jesse Ramirez

Master's Program Advisor

Sophia Lopes Ribeiro Fiorotto

Doctoral (Program)

Kyalamboka Brown, Marjorie Hahn, Miriam Leshin, Jesse Ramirez, Megan Selbach-Allen

Publications

PUBLICATIONS

- **Infusing Mindset through Mathematical Problem Solving and Collaboration: Studying the Impact of a Short College Intervention** *EDUCATION SCIENCES*
  Boaler, J., Brown, K., LaMar, T., Leshin, M., Selbach-Allen, M.
  2022; 12 (10)
- **Thinking Better: The Art of the Shortcut in Math and Life by Marcus du Sautoy (Book Review)** *MATHEMATICAL INTELLIGENCER*
  Book Review Authored by: Boaler, J.
  2022
- **The Transformative Impact of a Mathematical Mindset Experience Taught at Scale** *FRONTIERS IN EDUCATION*
  Boaler, J., Dieckmann, J. A., LaMar, T., Leshin, M., Selbach-Allen, M., Perez-Nunez, G.
  2021; 6
- **The importance and emergence of K-12 data science** *PHI DELTA KAPPAN*
  LaMar, T., Boaler, J.
  2021; 103 (1): 49-53
- **Mathematics for Human Flourishing. (Book Review)** *AMERICAN MATHEMATICAL MONTHLY*
  Book Review Authored by: Boaler, J.
  2020; 127 (9): 861–64
- **What Would the Nautilus Say? Unleashing Creativity in Mathematics!** *JOURNAL OF HUMANISTIC MATHEMATICS*
  Selbach-Allen, M., Williams, C., Boaler, J.
  2020; 10 (2): 391–414
- **The Derailing Impact of Content Standards – an Equity Focused District held back by Narrow Mathematics** *International Journal of Educational Research - Open*
  LaMar, T., Leshin, M., Boaler, J.
  2020; 1

- **Limitless Mind Learn, Lead and Live Without Barriers**
  Boaler, J.
  Harper Collins Publishers.2019

- **Achieving Elusive Teacher Change through Challenging Myths about Learning: A Blended Approach** *Education Sciences*
  Anderson, R. K., Boaler, J., Dieckmann, J.
  2018; 8 (3): 1-33

- **Psychological Imprisonment or Intellectual Freedom? A Longitudinal Study of Contrasting School Mathematics Approaches and Their Impact on Adults' Lives** *JOURNAL FOR RESEARCH IN MATHEMATICS EDUCATION*
  Boaler, J., Selling, S. K.
  2017; 48 (1): 78-105

- **The elephant in the classroom: Helping children learn and love maths**
  Boaler, J.
  Souvenir Press.2015

- **Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching**
  Boaler, J.
  John Wiley & Sons.2015

- **What's math got to do with it?: How teachers and parents can transform mathematics learning and inspire success**
  Boaler, J.
  Penguin.2015

- **Mathematics and science inequalities in the United Kingdom: when elitism, sexism and culture collide** *OXFORD REVIEW OF EDUCATION*
  Boaler, J., Altendorff, L., Kent, G.
  2011; 37 (4): 457-484

- **Mathematics and science inequalities in the United Kingdom: when elitism, sexism and culture collide** *Oxford Review of Education*
  Boaler, J., Altendorff, L., Kent, G.
  2011; 37 (4): 457-484

- **Changing students' lives through the de-tracking of urban mathematics classrooms** *Journal of Urban Mathematics Education*
  Boaler, J.
  2011; 4 (1): 7-14

- **What's Math Got to Do with It?: How Parents and Teachers Can Help Children Learn to Love Their Least Favorite Su bject**
  Boaler, J.
  Penguin.2008

- **Creating mathematical futures through an equitable teaching approach: The case of Railside School** *Teachers College Record*
  Boaler, J., Staples, M.
  2008; 110 (3): 608-645

- **When politics took the place of inquiry: A response to the National Mathematics Advisory Panel's review of instructional practices** *Educational Researcher*
  Boaler, J.
  2008; 37 (9): 588-594

- **Promoting 'relational equity'and high mathematics achievement through an innovative mixed#ability approach** *British Educational Research Journal*
  Boaler, J.
  2008; 34 (2): 167-194

- **Promoting respectful learning** *EDUCATIONAL LEADERSHIP*
  Boaler, J.
  2006; 63 (5): 74-78

- **Urban success: A multidimensional mathematics approach with equitable outcomes** *PHI DELTA KAPPAN*
  Boaler, J.
  2006; 87 (5): 364-369

- **How a detracked mathematics approach promoted respect, responsibility, and high achievement** *THEORY INTO PRACTICE*
  Boaler, J.
  2006; 45 (1): 40-46
- **Connecting mathematical ideas: Middle school video cases to support teaching and learning**
  Boaler, J., Humphreys, C.
  Heinemann Portsmouth, NH.2005
- **When learning no longer matters: Standardized testing and the creation of inequality** *PHI DELTA KAPPAN*
  Boaler, J.
  2003; 84 (7): 502-506
- **When learning no longer matters: Standardized testing and the creation of inequality** *Phi Delta Kappan*
  Boaler, J.
  2003; 84 (7): 502-506
- **Learning from teaching: Exploring the relationship between reform curriculum and equity** *JOURNAL FOR RESEARCH IN MATHEMATICS EDUCATION*
  Boaler, J.
  2002; 33 (4): 239-258
- **The development of disciplinary relationships: Knowledge, practice and identity in mathematics classrooms** *For the learning of mathematics*
  Boaler, J.
  2002; 22 (1): 42-47
- **Paying the price for ' sugar and spice ': Shifting the analytical lens in equity research** *Mathematical Thinking and Learning*
  Boaler, J.
  2002; 4 (2-3): 127-144
- **Learning from teaching: Exploring the relationship between reform curriculum and equity** *Journal for research in mathematics education*
  Boaler, J.
  2002: 239-258
- **Exploring the nature of mathematical activity: Using theory, research andworking hypotheses' to broaden conceptions of mathematics knowing** *Educational Studies in Mathematics*
  Boaler, J.
  2002; 51 (1-2): 3-21
- **Experiencing school mathematics: Traditional and reform approaches to teaching and their impact on student learning**
  Boaler, J.
  Routledge.2002
- **Mathematical modelling and new theories of learning** *Teaching Mathematics and Its Applications: International Journal of the IMA*
  Boaler, J.
  2001; 20 (3): 121-128
- **Students' Experiences of Ability Grouping - disaffection, polarisation and the construction of failure** *24th Annual Conference of the British-Educational-Research-Association*
  Boaler, J., Wiliam, D., Brown, M.
  ROUTLEDGE JOURNALS, TAYLOR & FRANCIS LTD.2000: 631–48
- **Exploring situated insights into research and learning** *JOURNAL FOR RESEARCH IN MATHEMATICS EDUCATION*
  Boaler, J.
  2000; 31 (1): 113-119
- **Mathematics from another world: Traditional communities and the alienation of learners** *The Journal of Mathematical Behavior*
  Boaler, J.
  2000; 18 (4): 379-397
- **Exploring situated insights into research and learning** *Journal for research in mathematics education*
  Boaler, J.

2000: 113-119

- **Students' experiences of ability grouping-disaffection, polarisation and the construction of failure** *British Educational Research Journal*
  Boaler, J., Wiliam, D., Brown, M.
  2000; 26 (5): 631-648
- **Multiple perspectives on mathematics teaching and learning**
  Boaler, J.
  Greenwood Publishing Group.2000
- **Participation, knowledge and beliefs: A community perspective on mathematics learning** *Educational studies in mathematics*
  Boaler, J.
  1999; 40 (3): 259-281
- **Alternative approaches to teaching, learning and assessing mathematics** *Evaluation and Program Planning*
  Boaler, J.
  1998; 21 (2): 129-141
- **Open and closed mathematics: Student experiences and understandings** *Journal for research in mathematics education*
  Boaler, J.
  1998: 41-62
- **Mathematical equity—underachieving boys or sacrificial girls?** *International Journal of Inclusive Education*
  Boaler, J.
  1998; 2 (2): 119-134
- **Reclaiming school mathematics: The girls fight back** *Gender and Education*
  Boaler, J.
  1997; 9 (3): 285-305
- **Equity, empowerment and different ways of knowing** *Mathematics Education Research Journal*
  Boaler, J.
  1997; 9 (3): 325-342
- **When even the winners are losers: Evaluating the experiences of top set'students** *Journal of Curriculum Studies*
  Boaler, J.
  1997; 29 (2): 165-182
- **Setting, social class and survival of the quickest** *British educational research journal*
  Boaler, J.
  1997; 23 (5): 575-595
- **Learning to lose in the mathematics classroom: A critique of traditional schooling practices in the UK** *International Journal of Qualitative Studies in Education*
  Boaler, J.
  1996; 9 (1): 17-33
- **The Role of Contexts in the Mathematics Classroom: Do they Make Mathematics More ' Real '?** *For the learning of mathematics*
  Boaler, J.
  1993; 13 (2): 12-17
- **Encouraging the transfer of 'school'mathematics to the 'real world'through the integration of process and content, context and culture** *Educational studies in mathematics*
  Boaler, J.
  1993; 25 (4): 341-373
- **The 'psychological prisons' from which they never escaped: The role of ability grouping in reproducing social class inequalities**
  Boaler, J.
  2005