

Mia S. Shaw

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EDUCATION

Doctor of Philosophy in Teaching, Learning, and Teacher Education, Fall 2017-present

Graduate School of Education, University of Pennsylvania

Advisor: Dr. Yasmin Kafai

Master of Education in Curriculum and Instruction, Spring 2014

College of Education, University of Nevada, Las Vegas

Bachelor of Science in Human Biology with Honors, Spring 2012

School of Humanities and Sciences, Stanford University

FELLOWSHIPS AND AWARDS

Curriculum Inquiry Writing Fellowship and Writing Retreat, Summer 2022

Ford Foundation Dissertation Fellowship, awarded Spring 2022

Spelman College COE-MWS Care and Create 2022 Working Retreat, Spring 2022

Lucas Education Research Student Voice in PBL Fellowship, Summer 2017-Spring 2018

PROFESSIONAL EXPERIENCE

Dissertation Fellow, Fall 2022-Spring 2023

Graduate School of Education, University of Pennsylvania

Research assistant, Fall 2017-present

Graduate School of Education, University of Pennsylvania

Collaborated on the implementation of electronic textiles research incorporating art (Google CS-ER: Supporting Computer Science Education Research in K–12 Grant); collaborated on the implementation of the Biomakerlab project (NSF Grant #1623018); and collaborated on the implementation of electronic textiles research in teaching and assessment (NSF Grant #1509245).

Research fellow, Summer 2017-Spring 2018

Graduate School of Education, University of Pennsylvania

Conducted portraiture research for the Lucas Education Research Student Voice in Project-Based Learning project

Teaching assistant, Spring 2020-Fall 2021

Graduate School of Education, University of Pennsylvania

Facilitated class discussions and taught sessions focused on identity and context for “EDUC 644.001: Learning Sciences: Past, Present, and Future” course as well as critical making and the politics of making for “EDUC 552: Video Games and Virtual Worlds as Sites for Learning and Engagement” and “EDUC 508.001: Maker Studio” courses. All three courses were taught by Dr. Yasmin Kafai.

Instructor, Fall 2019-Spring 2021

TeenSHARP

Developed and taught two college-level courses, “Making for Better Futures: Restorying through Video Game Design” and “Exploring and Reimagining Science Through the Lens of Race” for high school students as part of the TeenSHARP academic program.

Program Coordinator, Summer 2014-Spring 2017

Techbridge Girls

Coordinated and co-taught after-school and summer programs for middle school girls; refined and piloted science, engineering, and technology curricula that was aligned with Next Generation Science Standards; conducted professional development workshops for teachers, role models, and professional audiences about effective strategies for engaging youth in STEM; and established an ambassador leadership program for eighth-grade participants

Classroom teacher, Fall 2012-Spring 2014

Clark County School District, Las Vegas, NV

Administered appropriate district curriculum which is aligned with the Nevada State Standards; diagnosed and analyzed student progress and provide appropriate instruction.

PUBLICATIONS

Peer-Reviewed Journal Articles

- Shaw, M. S.**, Coleman, J. J., Kafai, Y. B., & Thomas, E. E. (under review). Recoding Black Girls' Futures: Using Womanist Quilting Methodologies to Reimagine Dominant Social Codes in Computing Education. *Journal of the Learning Sciences*.
- Fields, D. A., Lui, D., Kafai, Y. B., Jayathirtha, G., Walker, J. T., & **Shaw, M.S.** (2021). Communicating about computational thinking: understanding affordances of portfolios for assessing high school students' computational thinking and participation practices. *Computer Science Education*, 31(2), 224-258.
- Shaw, M. S.**, Fields, D. A., & Kafai, Y. B. (2020). Leveraging Local Resources and Contexts for Inclusive Computer Science Classrooms: Reflections from Experienced High School Teachers Implementing Electronic Textiles. *Computer Science Education*, 30(3), 313-336.
- Shaw, M. S.**, Fields, D. A., & Kafai, Y. B. (2019). Connecting with Computer Science: Electronic Textile Portfolios as Ideational Identity Resources for High School Students. *International Journal of Multicultural Education*, 21(1).

Peer-Reviewed Conference Proceedings

- Shaw, M. S.** (2022). Recoding computing: How adolescent Black girls reimagine dominant narratives about identity and belonging through electronic-textiles quilting. *Proceedings of RESPECT 2022*.
- Kafai, Y., Jayathirtha, G., **Shaw, M. S.**, & Morales-Navarro, L. (2021, June). Codequilt: Designing an hour of code activity for creative and critical engagement with computing. In *Interaction Design and Children* (pp. 573-576).
- Morales-Navarro, L., Kafai, Y., Jayathirtha, G., & **Shaw, M. S.** (2021, October). Investigating creative and critical engagement with computing in the Hour of Code (Practical report). In *The 16th workshop in primary and secondary computing education* (pp. 1-6).
- Shaw, M. S.**, Ji, G., Zhang, Y., & Kafai, Y.B. (2021). Promoting socio-political identification with computer science: How high school youth restore their identities through electronic textile quilts. *Proceedings of RESPECT 2021*. Available at http://respect2021.stcbp.org/wp-content/uploads/2021/05/001_Research_10_paper_81_Updated.pdf
- Shaw, M. S.** (2021). Restorying identity: Towards a development of critical identification with computing for minoritized youth. In E. de Vries, J. Ahn, & Y. Hod (Eds.), 15th International Conference of the Learning Sciences – ICLS 2021 (pp. 127-128). International Society of the Learning Sciences, 2021.
- Shaw, M. S.**, Kafai, Y.B., Zhang, Y., Ji, G., Russo, R., & Aftab, A. (2021). Connecting with Computer Science: Two Case Studies of Restorying CS Identity with Electronic Textile Quilts. In E. de Vries, J. Ahn, & Y. Hod (Eds.), 15th International Conference of the Learning Sciences – ICLS 2021 (pp. 697-700). International Society of the Learning Sciences, 2021.
- Shaw, M. S.** (2020). Restorying through Computational Quilts: A Critical Approach Towards Reimagining Computer Science. In *Proceedings of the 2020 ACM Conference on International Computing Education Research (ICER '20)*. Association for Computing Machinery, New York, NY, USA, 344–345. DOI: <https://doi.org/10.1145/3372782.3407114>

- Shaw, M. S., & Kafai, Y. B.** (2020). Charting the Identity Turn in K-12 Computer Science Education: Developing More Inclusive Learning Pathways for Identities. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 1* (pp. 114-121). Nashville, Tennessee: International Society of the Learning Sciences.
- Shaw, M.S., Coleman, J.J., Kafai, Y.B., & Thomas, E.E.** (2019). Restorying geek identity: Reimagining computer science connections with youth of color through collaborative quilts. *Proceedings of the Second Connected Learning Summit*.
- Jayathirtha, G., Kafai, Y. B., Lui, D., **Shaw, M. S.,** & Cho, J. Y. (2019). Collaborative Coding and Composing of JazzHands: Integrating the Learning of Advanced Computational Concepts with Electronic Textiles to Make Music Wearables. In *Proceedings from SIGCSE '19: The Fiftieth ACM Technical Symposium on Computer Science Education*. Minneapolis, MN: ACM.
- Kafai, Y.B., Fields, D.A., Lui, D., Walker, J.T., **Shaw, M. S.,** Jayathirtha, G., Nakajima, T., Goode, J., & Giang, M.T. (2019). Stitching the loop with electronic textiles: Promoting equity in high school students' competencies and perceptions of computer science. SIGCSE 2019, Minneapolis, MN: ACM.
- Shaw, M. S.,** Walker, J.T., & Kafai, Y.B. (2019). Arguing about Synthetic Biology in 140 Characters or Less: Affordances of Microblogging for High School Students Discussions of Socio-Scientific Issues. In *Proceedings of the 2019 Computer-Supported Collaborative Learning Conference of the International Society of the Learning Sciences*.
- Kafai, Y.B., Fields, D.A., Lui, D.A., Walker, J.T., **Shaw, M. S.,** Jayathirtha, G., Nakajima, T.M., Goode, J., & Giang, M. (2019). Stitching the Loop with Electronic Textiles: Promoting Equity in High School Students' Competencies and Perceptions of Computer Science. In *Proceedings from SIGCSE '19: The Fiftieth ACM Technical Symposium on Computer Science Education*. Minneapolis, MN: ACM. Available at <http://www.constructionism2018.fsf.vu.lt/proceedings>.
- Fields, D.A., **Shaw, M. S.,** & Kafai, Y.B. (2018). Personal learning journeys: Reflective portfolios as “objects-to-learn-with” in an e-textiles high school class. In V. Dagiene & E. Jastué, *Constructionism 2018: Constructionism, Computational Thinking and Educational Innovation: conference proceedings* (pp. 213-223). Vilnius, Lithuania.
- Walker, J.T., **Shaw, M. S.,** Kafai, Y.B., Lui, D.A. (2018). Biohacking food: A case study of science inquiry and design reflections about a synthetic biology high school workshop. *Proceedings from ICLS '18: The Thirteenth International Conference of the Learning Sciences*. London, UK: ISLS.
- Lui, D., Jayathirtha, G., Fields, D.A., **Shaw, M. S.,** & Kafai, Y.B. (2018). Design considerations for capturing computational thinking practices in high school students' electronic textile portfolios. *Proceedings from ICLS '18: The Thirteenth International Conference of the Learning Sciences*. London, UK: ISLS.

Book Chapters

- Fields, D. A., & **Shaw, M. S.** (in press). Behind the magic: Teaching practices that lay foundations for engagement, rigor, and creativity in CS. In *Programming the Acceleration of Computing & Equity (PACE) Summit*, Educational Development Center.
- Colket, L., Garrett, J., & **Shaw, M. S.** (2021). Transformative Storytelling as Critical Praxis for Educational Leaders. In Eds. K. Pak & S. Ravitch, *Critical Leadership Praxis for Educational and Social Change* (pp. 101-114). New York, NY: Teachers College Press.

Published illustrations

- Mozilla Festival, Nias, J., Sampson, P., & Ogburu-Ogbonnaya (2022). *Black Women's Experiences with Algorithmic Microaggressions* [Black paper] Mozfest Spelman College.
<https://foundation.mozilla.org/en/insights/mozfest-selman-college-blackpaper/>

Symposia, workshops, and other presentations

- Lee, C., & **Shaw, M. S.** (2022, April). Decoding Tech to Recode Humanity. Invited presentation for *Spring 2022 Technology and Society Lecture series*. Mills College, Oakland, CA.

- Fields, D. A., & **Shaw, M. S.** (2021, August). Behind the Magic: Teaching Practices that Lay Foundations for Engagement, Rigor, and Creativity in CS. Invited presentation and panel for *Programming the Acceleration of Computing and Equity (PACE) Equity Summit*. Education Development Center (EDC), Boston, MA.
- Shaw, M. S.**, Coleman, J.J., Kafai, Y.B., & Thomas, E.E. (2020). Restorying Geek Identities: Making Interactive Quilts for Critical Reimagining of Maker and Computing Stories. *Proceedings of Ninth Annual Conference on Maker Education (Fablearn 2020)*.
- Jayathirtha, G., **Shaw, M. S.**, Kafai, Y.B., & Fields, D.A. (2020). When a Glove Becomes a Gun: From Personally Meaningful to Socially Critical Restorying in Maker Activities. *Proceedings of Ninth Annual Conference on Maker Education (Fablearn 2020)*.
- Jayathirtha, G., **Shaw, M. S.**, & Fields, D.A. (2019). Debugging by Design: Learning by Making and Fixing Mistakes. *Proceedings of Eighth Annual Conference on Maker Education (Fablearn 2019)*.
- Walker, J.T., **Shaw, M. S.**, & Kafai, Y.B. (2019). bioCAKES: Making with Biology. *Proceedings of Eighth Annual Conference on Maker Education (Fablearn 2019)*.

TECHNICAL SKILLS

Proficient in block-based programming, electronic textiles, and Arduino
Proficient in Windows OS, Mac OS, and Salesforce

PROFESSIONAL ACTIVITIES & COMMUNITIES

Conference Committees

American Education Research Association (AERA) 2023, Division K Digital Committee Chair
Learning Sciences Graduate Student Conference (LSGSC) 2022, Speakers Committee Member
UPenn GSE Learning Sciences and Technology Faculty Search Committee, Student Representative

Memberships

Science Educators for Equity Diversity and Social Justice (SEEDS)
Association for Computer Machinery
International Society of the Learning Sciences (ISLS)
American Educational Research Association (AERA)

Journal and Conference Reviewing

Transactions of Computing Education (TOCE)
International Society of the Learning Sciences (ISLS)
Learning Sciences Graduate Student Conference (LSGSC)
IEEE Conference for Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)
Fablearn Conferences

LANGUAGES

English: Fluent
Spanish: Classroom knowledge