

**EKTA SHOKEEN**

Doctoral Candidate  
College of Information Studies  
University of Maryland, College Park

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Latham, NY 12110

With over 10 years of experience in Higher Education, I am a passionate and reflective practitioner with researching about critical issues in Design & Development of technological tools for youth. Over the course of my academic experiences, I have developed a deep understanding of a wide range of qualitative, quantitative, and user experience research methods including:

**Qualitative Methods:** Grounded Theory, Case Studies, Surveys, Ethnography, Focus Groups, Interviews. Skilled in using Qualitative Analysis software- MAXQDA, Dedoose, Nvivo.

**UX Research Methods:** User-Centered Designs (UCD), Usability Testing, A/B testing, Card Sorting etc.

**Quantitative data analysis** – Deep Learning - toolkits such as Python, PyTorch.

**FORMAL EDUCATION**

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Aug. 2019 –  
Present

**Doctoral Candidate in Information Studies**  
College of Information Studies  
University of Maryland, College Park  
Advisor: Dr. Caroline Williams-Pierce

Aug. 2018 –  
July 2019

**PhD student in Curriculum and Instruction**  
State University of New York, Albany  
Department of Education Theory and Practice  
College of Education  
Advisor: Dr. Caroline Williams-Pierce  
(Transferred to University of Maryland upon invitation from advisor)

July. 2015 –  
May 2017

**M.A. in Education**  
Tata Institute of Social Sciences  
Departments of Education  
Advisor: Dr. Jayasree Subramanian  
Thesis Title: *Using Digital Technology for Teaching Elementary Concepts in Geometry: An Exploration*

July 2011- May  
2015

**Bachelor of Elementary Education**  
University of Delhi, Jesus and Mary College  
Department of Education

**AWARDS AND SCHOLARSHIP**

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**Sept 30, 2021** Doctoral Student Research Award (\$1000)

**Sept25, 2020** Best Game in Development, *HEX -The Turtle of Islands*

14<sup>th</sup> European Conference on Game Based Learning (ECGBL'20)

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**2019-2020** Helen A. Tegnell Scholarship (\$5000)  
**Fall 2019** Dr. Dana Rotman Doctoral Student Travel Award (\$1000)

### **SELECTIVE PROFESSIONAL WORKSHOP**

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**May 20-22, 2019** Synthesis and Design Workshop: The future of Embodied Design for Mathematical Imagination and Cognition. Held at University of Wisconsin – in Madison, WI, USE [\[EMIC I\]](#)

**July 6, 2021** Rising Scholars of CLS meet up at the Connected Learning Summit 2021. [CLS 2021](#)

**Sept. 25-26, 2021** Embodied Mathematical Imagination and Cognition: Professional Development for Undergraduate Mathematics Instructors. Held Virtual [EMIC II](#)

### **REVIEWER FOR PROFESSIONAL CONFERENCE/JOURNAL**

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1. ACM CHI Conference on Human Factors in Computing Systems, 2020, 2021,2022.
2. ACM Interaction Design and Children (IDC) conference 2020.
3. International Society of Learning Sciences (ISLS) conference 2021.
4. Learning Science Graduate Student Conference (LSGSC) 2021.

### **PROFESSIONAL AFFILIATION**

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- ACM CHI Conference on Human Factors in Computing Systems (ACM SIGCHI)
- ACM CHI Conference on Player Computer Interaction (CHIPLAY)
- International Society of Learning Sciences (ISLS)
- Connected Learning Submit (CLS)
- American Educational Research Association (AERA)
- Psychology of Mathematics Education International and North American Chapter. (PME NA)
- Learning Science Graduate Student Conference (LSGSC) 2021.

### **PROFESSIONAL VOLUNTEERING RESPONSIBILITIES**

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2021-22 Elected as Student Representative Member in Doctoral Committee at iSchool.

Fall 2021 Student Volunteer in organizing committee of CHIPLAY 2021.

### **RESEARCH POSITIONS**

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Jan. 2020 – Present **Graduate Research Assistant**, Dr. Michel Cukier & Dr. David Weintrop  
*Institute for Advanced Computer Studies, University of Maryland,*  
Currently working on grant titled, **“Increasing the Interest of Students from Underrepresented Populations for Cybersecurity”** funded by *US Federal Government, Department of Defense.*  
In this project goal is to develop a videogame to increase youth (10-14 yrs.) interest in cybersecurity concepts. My involvement includes designing study, data collection

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from participants and analyzing to inform insights to design team. Additionally, submitting proposals into conference proceedings, journals to share the learning from the Design Based Research with the researchers.

June 2019 – July  
2021

**Graduate Research Assistant**, Williams-Pierce, P.I.

*College of Information Studies, University of Maryland, College Park*

Worked on analyzing data involving youth participation in making activities of Makerspaces. Also, worked on various literature reviews within videogames– Conceptual Review of Problem Solving, Embodied Cognition etc.

My involvement has included improving design of augmented reality research tool, planning and conducting research, video data coding and analysis, as well as conference proposal.

Aug 2018 –  
May 2019

**Graduate Research Assistant**, Williams-Pierce, P.I.

*University at Albany – SUNY*

My involvement has included book editing, research project planning, conducting structured action experiments, video data coding and analysis, as well as conference proposal and manuscript preparation and conference presentations.

Aug. 2019 –  
Present

**Research Team Member**,

*Youth Experience Lab*

College of Information Studies, University of Maryland – College Park

April, 2017-  
June, 2018

**Curriculum Developer and Instructional Designer**

Robotics Wizards,

New Delhi, India

My involvement included developing STEM based curriculum and textbooks for elementary graders; doing focused research on evaluating the effectiveness of various educational kits like Lego Education, K'nex Education etc; developing content and training manuals for teachers to assist them in classroom pedagogy; conducting teacher's training.

June-July 2016

**Visiting Researcher**

Homi Bhabha Centre for Science Education,

TIFR Mumbai, India

My involvement included developing Mathematics Laboratory Manual and conducting workshop for Secondary Mathematics teachers on the use of different resources for teaching mathematics.

Nov.-Dec., 2015

**Visiting Scholar**

DIGANTAR, *An Alternative School*

Rajasthan, India

My involvement included preparing an analytical report based on classroom observations, attending Teacher's Meeting, Parent's Teacher Meeting, interacting with students, teachers and parents, doing community visits.

## **PEER-REVIEWED PROCEEDINGS AND PUBLICATIONS**

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- [13] **Shokeen, E.**, Katirci, N., & Williams-Pierce, C. (in preparation). *The Problem with ‘Problem Solving’ in ‘Video Games’: A Systematic Review*. To be submitted to *AERA Review of Educational Research*.
- [12] **Shokeen, E.**, Katirci, N., Simpson, A., & Williams-Pierce, C (in submission). *Youth Embodied Communication and Collaboration within a Making Robotic Activity*. Submitted in the 2022 CHI Conference on Human Factors in Computing Systems.
- [11] **Shokeen, E.**, Pellicone A., Weintrop D., Ketelhut D. J., Cukier M, Plane J. D., & Williams-Pierce, C. (in submission). *Youth Approaches to solving puzzles in Videogame*. Submitted in the 2022 CHI proceeding on Human Factors in Computing Systems.
- [10] **Shokeen E.**, Weintrop D., Pellicone A., Moon P. F., Ketelhut D. J., Plane J. D., & Cukier M. (in submission). *It Makes You Think: How Perplexity Shapes Experiences in a Game-based Learning Environment*. To be submitted in the 2022 CHI Conference on Human Factors in Computing Systems.
- [9] Dixon E., Wood R., **Shokeen E.**, Elsayed-Ali S., Lazar A., & Lazar J. (in submission). *Evaluating the Potential of Auto-Personalization for People with Mild to Moderate Dementia*. Submitted to the 2022 CHI proceeding on Human Factors in Computing Systems.
- [8] **Shokeen, E.**, Simpson, A., Katirci, N., & Williams-Pierce, C (2021, Oct.) *Use of Zig-zag to Represent Mathematical Thinking about Angle*. In the 43<sup>rd</sup> annual proceeding of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA).
- [7] Williams-Pierce, C, Katirci, N., Simpson, A., **Shokeen, E.**, & Bih J. (2021, Oct.) *Revealing Mathematical Activity in Informal Learning Spaces*. In the 43<sup>rd</sup> annual proceeding of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA).
- [6] **Shokeen E.**, Pellicone A., Weintrop D., Ketelhut D. J., Williams-Pierce, C., Plane J. D., & Cukier M. (2021, June). *An Iterative Design Cycle: Using Productive and Unproductive Frustration to Guide Re-Design*. In Proceedings of the 2021 International Conference of the Learning Sciences (pp. 957-958).  
<https://2021.isls.org/proceedings/>
- [5] Simpson, A., Katirci, N., **Shokeen, E.**, Bih J., & Williams-Pierce, C. (2021, June) *Representation Fluency of Angle during an Educational Robotics Task*. In Proceedings of the 2021 International Conference of the Learning Sciences (pp. 529 -532).  
<https://2021.isls.org/proceedings/>
- [4] Wood R., Dixon E., Elsayed-Ali S., **Shokeen E.**, Lazar A., & Lazar J. (2021, July 21) *Investigating Best Practices for Remote Summative Usability Testing with People with Mild to Moderate Dementia*. *ACM Transactions on Accessible Computing Journal (TACCESS)*.  
<https://dl.acm.org/doi/abs/10.1145/3460942>
- [3] **Shokeen, E.**, Katirci, N., Bih J., Simpson, A., & Williams-Pierce, C. (2020, Nov). *Unpacking Mathematical Play within Makerspaces using Embodied Cognition*. In Proceedings of the 2020 CHIPLAY Annual Symposium on Computer-Human Interaction in Play.  
<https://dl.acm.org/doi/10.1145/3383668.3419909>
- [2] **Shokeen E.**, Pellicone A., Weintrop D., Ketelhut D. J., Williams-Pierce, C., Plane J. D., & Cukier M. (2020, Nov). *Designing Failure and Feedback within Puzzles*. In Proceedings of the 2020 CHIPLAY Annual Symposium on Computer-Human Interaction in Play.  
<https://dl.acm.org/doi/10.1145/3383668.3419901>

- [1] Kang, S., **Shokeen, E.**, Byrne, V. L., Norooz, L., Bonsignore, E., Williams-Pierce, C., & Froehlich, J. E. (2020, April). ARMath: Augmenting Everyday Life with Math Learning. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (pp. 1-15).  
<https://dl.acm.org/doi/10.1145/3313831.3376252>

## PEER-REVIEWED CONFERENCE PRESENTATIONS

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- [23] **Shokeen, E.**, Katirci, N., Simpson, A., & Williams-Pierce, C (in submission). *Youth Embodied Communication and Collaboration within a Making Robotic Activity*. Submitted in the 2022 CHI Conference on Human Factors in Computing Systems.
- [22] **Shokeen, E.**, Pellicone A., Weintrop D., Ketelhut D. J., Cukier M, Plane J. D., & Williams-Pierce, C. (in submission). *Youth Approaches to solving puzzles in Videogame*. Submitted in the 2022 CHI proceeding on Human Factors in Computing Systems.
- [21] **Shokeen E.**, Weintrop D., Pellicone A., Moon P. F., Ketelhut D. J., Plane J. D., & Cukier M. (in submission). *It Makes You Think: How Perplexity Shapes Experiences in a Game-based Learning Environment*. To be submitted in the 2022 CHI Conference on Human Factors in Computing Systems.
- [20] **Shokeen, E.**, & Katirci, N. (Accepted). *Unpacking embodied learning within a making robotic activity*. Submitted to the 2021 Learning Sciences Graduate Student Conference.
- [19] **Shokeen, E.**, & Moon, P. F. (Accepted). *Unpacking players' experiences within Serious Video Games*. Submitted to the 2021 Learning Sciences Graduate Student Conference.
- [18] **Shokeen, E.**, Williams-Pierce, C & Katirci, N. (in submission). *Reflective Thinking: A learning process within gameplay*. Submitted to the 2022 American Educational Research Association Annual Meeting and Exhibition.
- [17] **Shokeen, E.**, Katirci, N., Simpson, A., & Williams-Pierce, C (in submission). *Embodied Communication and Collaboration within Making Activities*. Submitted to the 2022 American Educational Research Association Annual Meeting and Exhibition.
- [16] Katirci, N., **Shokeen, E.**, & Williams-Pierce, C. (in submission). *From Here to There!: Game-Based Learning*. Submitted to the 2022 American Educational Research Association Annual Meeting and Exhibition.
- [15] Katirci, N., **Shokeen, E.**, Simpson, A., & Williams-Pierce, C. (in submission). *Attending to the missing role of gestures in Representational Fluency*. Submitted to the 2022 American Educational Research Association Annual Meeting and Exhibition.
- [14] Pellicone A., **Shokeen E.**, Moon P. F., Weintrop D., Ketelhut D. J., Williams-Pierce, C., Plane J. D., & Cukier M. (in submission). *"It just felt more like a pyramid..." Fantasy and Content in Game-based Learning Puzzle Design*. Submitted to the 2022 American Educational Research Association Annual Meeting and Exhibition.
- [13] **Shokeen, E.**, Simpson, A., Katirci, N., & Williams-Pierce, C (2021, October). *Use of Zig-zag to Represent Mathematical Thinking about Angle*. To be presented at the 43<sup>rd</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.
- [12] Williams-Pierce, C, Katirci, N., Simpson, A., **Shokeen, E.**, & Bih J. (2021, Oct.) *Revealing Mathematical Activity in Informal Learning Spaces*. In the 43<sup>rd</sup> annual proceeding of the North

American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA).

- [11] Wood R., Dixon E., Elsayed-Ali S., **Shokeen E.**, Lazar A., & Lazar J. (2021, October) *Investigating Best Practices for Remote Summative Usability Testing with People with Mild to Moderate Dementia*. To be presented at the 23<sup>rd</sup> International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS).
- [10] Katirci, N., **Shokeen, E.**, Simpson, A., & Williams-Pierce, C. (2021, April). *Making with math: Extending a mathematical play framework to informal makerspaces*. Submitted to the American Educational Research Association Annual Meeting and Exhibition. <https://aera21-aera.ipostersessions.com/default.aspx?s=9F-63-14-D6-D5-77-20-39-F1-67-E8-FD-C9-9C-B8-97>
- [9] **Shokeen, E.**, Katirci, N., Bih J., Simpson, A., & Williams-Pierce, C. (2020, Nov). *Unpacking Mathematical Play within Makerspaces using Embodied Cognition*. Presented in the 2020 CHIPLAY Annual Symposium on Computer-Human Interaction in Play. [https://www.youtube.com/watch?v=itj\\_cu61rtk](https://www.youtube.com/watch?v=itj_cu61rtk)
- [8] **Shokeen E.**, Pellicone A., Weintrop D., Ketelhut D. J., Williams-Pierce, C., Plane J. D., & Cukier M. (2020, Nov). *Designing Failure and Feedback within Puzzles*. Presented in the 2020 CHIPLAY Annual Symposium on Computer-Human Interaction in Play. <https://www.youtube.com/watch?v=CYUzp3KFpUQ&t=2s>
- [7] Katirci, N., Chen, L., **Shokeen, E.**, Yasenchak, T., Tian, Y., & Williams-Pierce, C. (2020). *Bridging between mathematical play and formal mathematics*. Accepted to the 14<sup>th</sup> International Congress of Mathematics Education. Shanghai, China. (Conference Canceled due to COVID-19).
- [6] Kang, S., **Shokeen, E.**, Byrne, V. L., Norooz, L., Bonsignore, E., Williams-Pierce, C., & Froehlich, J. E. (2020, April). ARMath: Augmenting Everyday Life with Math Learning. In *the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-15). <https://dl.acm.org/doi/10.1145/3313831.3376252>
- [5] Walkoe, J., Williams-Pierce, C., **Shokeen, E.**, & Walton, M. (2020, April 17-22). *Teacher noticing professional development: Re-embodiment of the dis-embodied*. Accepted to the American Educational Research Association Annual Meeting and Exhibition. San Francisco, CA. (Conference Canceled due to COVID-19). <http://tinyurl.com/tfwfwbg>
- [4] Katirci, N., **Shokeen, E.**, & Williams-Pierce, C. (2020, April 17-21). *Exploring touch and communicative gestures' role in mathematical thinking*. Accepted to the American Educational Research Association Annual Meeting and Exhibition. San Francisco, CA. (Conference Canceled due to COVID-19). <https://aera20-aera.ipostersessions.com/default.aspx?s=47-48-1C-C5-81-AB-17-E6-79-D0-94-0E-C7-AE-65-9B>.
- [3] Williams-Pierce, C., Katirci, N., Chen, L., **Shokeen, E.**, Yasenchak, T., & Tian, Y. (2019, September). *Bridging from mathematical play to formal mathematics*. Presented at 4<sup>th</sup> International Symposium of Turkish Computer and Mathematics Education. İzmir, Cesme, Turkey.
- [2] **Shokeen E.** & Williams-Pierce, C. (2019, May). *Using Embodied Cognition to Unpack Video Game-based Discussions*. Poster presented at Synthesis and Design Workshop: The Future of Embodied

Design for Mathematical Imagination and Cognition. Madison, WI: University of Wisconsin – Madison.

- [1] **Shokeen E.** (2017, November). *STEM Education in India* Paper presented at the 8<sup>th</sup> Annual International Conference 2017 of the Comparative Education Society of India. University of Jammu, Jammu & Kashmir, India.

## Edited Book

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Tian, Y., Rivera, S., Wood, J., Persson, P., Richardson, Z., Steele, K., Furcinito, E., Doe, L.W., Reddick, P., Hafner, C., Delk, A., Marquardt, H., Slocum, E., Jones, F., Babcock, S., Addico, N., O'Donnell, K., **Shokeen, E.**, & Williams-Pierce, C. (Eds.) (2018). *Learning by playing: Game-based lessons for the classroom.*

Available online on a variety of platforms, including Amazon Inspire (<https://tinyurl.com/ycvnx7yn>).

## MINOR PUBLICATIONS AND MEDIA

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Revealing Mathematical Learning in Non-Formal Spaces (2021, September). Center for Integrative Research in Computing and Learning Sciences (CIRCLS).

Guest Roundtable Speaker: Williams-Pierce, C., Katirci, N., Simpson, A., Shokeen, E., & Bih, J.

Resources for Hands-Off Learning at Home (May 20, 2020). Published in Sparks of Innovation: Stories from the HCI. Author with Caro Williams-Pierce and Nihal Katirci.

<https://medium.com/hcil-at-umd/resources-for-hands-off-learning-at-home-6199e1c3fc9>

## TEACHING EXPERIENCE

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INST 408V/ INST  
608K

**Spring 2021**

### **Videogames as Emergent Experiences**

*College of Information Studies, University of Maryland, College Park*

**Co-instructor** with Dr. Caro Williams-Pierce

A blended online class, half synchronous, and half asynchronous, with a gamified Read-Watch-Play (RWP) model, with assigned readings, videos, and games each week for advanced undergraduates, master's students, and doctoral students interested in games, UX, or digital media of any kind. My role included leading lectures on multiple topics including – *Game Design Models, Educational Games, Gaming Communities, eSports, Puzzle Solving, Problem Solving, Learning*. Additionally, taking the lead to designing activities and selecting relevant content based on the diverse student's interest in the class. Having office hours for student to assist their additional needs and queries.

INST 362 –0102  
**Fall 2020**

### **User-centered Design**

*College of Information Studies, University of Maryland, College Park*

**Teaching Assistant** for Dr. Caro Williams-Pierce

A synchronous online class for 60 undergraduate students interested in User Experience (UX) Research. It was designed iteratively as Fall2020 was challenging times due to COVID19 which led to lots of issues such as lack of internet connection or digital literacy (e.g. Miro, portfolium) for few students. This made working in group projects different for students. With some additional support during office hours all



students were satisfied with their performances and achievement in collaborative projects.

April, 2017-  
June, 2018

**Curriculum Developer and Instructional Designer**

Robotics Wizards,  
New Delhi, India

My involvement included developing STEM based curriculum and textbooks for elementary graders; doing focused research on evaluating the effectiveness of various educational kits like Lego Education, K'nex Education etc; developing content and training manuals for teachers to assist them in classroom pedagogy; conducting teacher's training.

April-May, 2016

**Visiting Teacher**

Kulachi Hansraj Model School,  
New Delhi, India

My involvement included designing and executing lesson plans using art and technology for teaching mathematics to grade 7 students.

**Content and Instructional Designer Intern**

Pratham Education Foundation  
New Delhi, India

Nov.-Dec., 2015

My involvement included developing content for teacher's training, student's magazine and analyzing the execution of a Research and Development Project in two states- Rajasthan and Uttar Pradesh of India.

**Teacher Intern**

N.P. Co-Ed. Secondary School,  
Delhi, India

My involvement included creating teaching resources, teaching students of grade 4 and 6 and conducting action research including three projects titled – *How to control Growing Aggression among students; Competition versus collaboration; and an analysis of Emergent Writing Process.*

Aug. 2014-Feb.  
2015

**INVITED GUEST LECTURES**

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**INST 362**  
(Sept 27,  
2020)

User Centered Design, Instructor *Dr. Caro Williams-Pierce* invited me to give lecture on "*Double Diamond – Design Model*".

**INST 775**

HCIM Capstone Project, Supervisor: Bill Kules, invited me to give lecture on

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(Sept 18,  
2020) “*Methodological Tools for Designing a Video Game – MDA Framework and Embodied Cognition Perspective*”

**INST 728F-  
0101** Special Topics in Information Studies: Games and Learning Lecture, Instructor *Dr. Caro Williams-Pierce* invited me to give multiples lectures on different models of game designs for learning such as “MDA framework: *Mechanics, Dynamics and Aesthetics of Game Design*”.

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