

Reyhaneh Bastani

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ACADEMIC POSITION

Postdoctoral Fellow June 2022-present

Werklund School of Education, Learning Sciences Area

- Working on the “Playing and redesigning culturally-relevant tabletop games: Sustaining cultural and linguistic pluralism in formal and informal learning environments” project, supervised by Professor Beaumie Kim
- Working on establishing the Play, Redesign & Learn Lab at Werklund School of Education
- Developing the Play, Redesign & Learn Lab website to present its approach and projects (under construction)

EDUCATION

PhD in Learning Sciences 2022

University of Calgary, Werklund School of Education

Supervisor: Professor Beaumie Kim

GPA 4/4

Dissertation: “*Design for Learning Through a Complexity Perspective: A Board Game Redesign Approach to Enabling Learning Possibilities*”

Master of Business Administration 2013

Sharif University of Technology, Graduate School of Management and Economics

Tehran, Iran

Bachelor of Science in Electrical Engineering, Control Systems 2009

Sharif University of Technology

Tehran, Iran

SELECTED CERTIFICATES AND ONLINE COURSES

No-Code AI and Machine Learning: Building Data Science Solutions, MIT (Certificate of Program Completion from MIT)

Artificial Intelligence with Python, Harvard University (ongoing)

“Design for the 21st Century with Don Norman”, Interaction Design Foundation (Certificate of Completion)

“Writing in Sciences”, Stanford University (Certificate of Completion)

TEACHING EXPERIENCE

Guest Instructor 2022

EDER 616 Design-Based Research

(Instructor: Dr. Beaumie Kim)

Class Facilitator

EDER 679 Special Topics in Educational Technology (Design-Based Learning) 2019

(Instructor: Dr. Beaumie Kim)

EDER 679 Special Topics in Educational Technology (Digital Game-Based Learning) 2018

(Instructor: Dr. Beaumie Kim)

Teacher Assistant 2013-2014

Strategic Management (SGMA 591), Haskayne School of Business, University of Calgary

Teacher Assistant

2011

Operations Management, Sharif School Management & Economics, Sharif University of Technology

Private Teacher of Art, K-12 Mathematics and Science

2009-2013

RESEARCH INTERESTS

Complexity research in education
Learning technologies
Modeling and design of complex systems
Design-based learning
Game-based learning

SELECTED PUBLICATIONS

(The “*” sign indicates peer reviewed contributions.)

*Bastani, R., Kim, B. & Clyde, J. (2023). Refiguring the positioning through tabletop game redesign: What it means to engage in culturally-sustaining learning as a family. In *Proceedings of the 17th International Conference of the Learning Sciences-ICLS 2023*. International Society of the Learning Sciences.

*Bastani, R. & Kim, B. (2022). *Pandemic Board Game Redesigned: How Learners' Decisions Enable Emergent Learning Possibilities*. In Chinn, C., Tan, E., Chan, C. & Kali, Y. (Eds.), *Proceedings of the 16th International Conference of the Learning Sciences - ICLS 2022*

*Kim, B., Bastani, R., & Takeuchi, M. A. (2021). Embodied mathematical practices in (re)designing board games in a linguistically diverse classroom. *Pedagogies: An International Journal*, 1-22.

*Bastani, R. & Kim, B. (2021). Emergent Learning Possibilities and Evolving Design Spaces in Students' Redesigning the Pandemic Board Game. In de Vries, E., Hod, Y., & Ahn, J. (Eds.), *Proceedings of the 15th International Conference of the Learning Sciences - ICLS 2021* (pp. 1151-1152).

*Bastani, R. & Kim, B. (2021). A Review of Complexity Perspectives in the Learning Sciences. In de Vries, E., Hod, Y., & Ahn, J. (Eds.), *Proceedings of the 15th International Conference of the Learning Sciences - ICLS 2021* (pp. 1157-1158).

*Bastani, R., & Kim, B. (2020). Learners' emergent designs for play: Game design as mathematical modeling practices. In M. Gresalfi & I. S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences- ICLS 2020* (Vol. 3, pp. 1445–1452).

*Kim, B., Bastani, R., Rahimi, F. B., & Dadkhahfard, S. (2020). Finding Opportunities to Pursue Interest in the Classroom: Contrasting Two Cases of Redesigning Tabletop Games. In M. Gresalfi & I. S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences- ICLS 2020* (Vol. 3, pp 1613-1616)

*Kim, B., Bastani, R. (2018). Game Design Literacies as Problem-Solving Dispositions. In *Proceedings of the 13th International Conference of the Learning Sciences (ICLS)*, London, UK.

*Kim, B. & Bastani, R. (2018). How Inversé merged with Go: Redesigning games as mathematical and cultural practices. In *Proceedings of the 5th Conference on STEM (Science, Technology, Engineering, and Mathematics) in Education Conference*, Brisbane, Australia.

*Kim, B., Bastani, R. (2017). Students as game designers: Transdisciplinary Approach to STEAM Education. *Alberta Science Education Journal*, 45 (1), 45-52.

*Kim, B, Bastani, R., Baradaran, F. (2017). Affordances of learners' game design practices. In *Proceedings of IDEAS 2017 conference*. Canada, Calgary, Werklund School of Education, University of Calgary.

*Bastani, R. (2016). Enhancing children's understanding of complex systems: A study of the design considerations of an effective learning environment. In *Proceedings of EdMedia: World Conference on Educational Media and Technology 2016* (pp. 1348-1353). Association for the Advancement of Computing in Education (AACE).

*Kim, B. & Bastani, R. (2016). Game design literacy as STEM competencies. In *Proceedings of the 4th Conference on STEM (Science, Technology, Engineering, and Mathematics) in Education Conference: Connecting Informal and Formal STEM Education*. Beijing, China: Beijing Normal University.

Bastani, R., Sardari, S., Sodagari, F., Soltani, L. (in press). Persian translation of Sweeney, L. B., Meadows, D., & Mehers, G. M. (2011). *The Systems Thinking Playbook for Climate Change: A Toolkit for Interactive Learning*. GIZ, Eschborn, Germany.

SELECTED CONFERENCE PRESENTATIONS, PAPERS & POSTER

*Bastani, R. & Kim, B. (2022, June). *Pandemic Board Game Redesigned: How Learners' Decisions Enable Emergent Learning Possibilities*. Paper presented at The International Society of the Learning Sciences Annual meeting (16th ICLS program). (online conference)

*Kim, B., Bastani, R., Acton, J. & Clyde, J. (2022, June). *Redesigning Tabletop Games as Culturally Sustaining Pedagogy: Playing, Designing, and Learning with Canadian Families*. Paper presented at The International Society of the Learning Sciences Annual meeting (16th ICLS program). (online conference)

*Bastani, R., Kim, B. (2021, June). *Emergent Learning Possibilities and Evolving Design Spaces in Students' Redesigning the Pandemic Board Game*. Paper presented at The International Society of the Learning Sciences Annual meeting (15th ICLS program). (online conference)

*Bastani, R., Kim, B. (2021, May). *Learners' Decisions and Emergent Learning Opportunities in Redesigning the Pandemic Board Game*. Paper presented at Canadian Society for the Study of Education (CSSE) 2021. (Learning sciences SIG online sessions)

*Bastani, R., Kim, B. (2020, June). *Learners' emergent designs for play: Game design as mathematical modeling practices*. The 14th International Conference of the Learning Sciences (ICLS). (In-person conference cancelled; paper presented in Play, Games, and Learning Design online session organized by participants)

*Bastani, R., Kim, B. (2020, May). *Students' redesigning a cooperative board game: Emergent design variations and learning possibilities*. Paper presented at Canadian Society for the Study of Education (CSSE) 2020. (Learning sciences SIG online sessions)

*Bastani, R. & Kim, B. (2019, April). *Understanding Students' Game Design: A Complexity Perspective*. Paper presented at 2019 annual meeting of the American Education Research Association (AERA), Toronto, Canada.

*Kim, B. & Bastani, R. (2018, November). *How Inversé merged with Go: Redesigning games as mathematical and cultural practices*. Paper presented at the 5th Conference on STEM in Education Conference 2018, Queensland University of Technology (QUT), Brisbane, Queensland, Australia.

*Kim, B., Bastani, R. (2018, June). *Game Design Literacies as Problem-Solving Dispositions*. Poster presented at the 13th International Conference of the Learning Sciences (ICLS), London, UK.

*Bastani, R., Kim, B. (2017, May). *Developing Students' Systems Thinking Skills through Game Design*. Paper presented at Canadian Society for the Study of Education (CSSE) 2017, Ryerson University, Toronto, ON.

*Bastani, R., Gupta, D., Kim, B. (2016, May). *Teaching Children about Complex Systems Using Digital Games*. Poster presented at Canadian Society for the Study of Education (CSSE) 2016, University of Calgary, Calgary, AB.

AWARDS

International Research Excellence Award, University of Calgary, \$6,000

2018

Graduate Programs in Education Scholarly Engagement Award, Werklund School of Education, \$1,000	2018
Werklund School of Education PhD Scholarship, University of Calgary, \$15,000	2016
Eberlein Systems Dynamics Scholarship, \$4,000	2016
Werklund School of Education PhD Scholarship, University of Calgary, \$13,500	2015

SELECTED RESEARCH PROJECTS

Designer and director: Students' redesigning a cooperative game for their science and math learning

University of Calgary 2018- 2021

In this project, I collaborated with a mathematics teacher (also a game designer) and designed and conducted a project on grade 7 students' redesigning a cooperative game (Pandemic) for their science and mathematics learning.

Research Assistant, Developing mathematical literacy and mathematics identity through game design

Dr. Beaumie Kim, Werklund School of Education 2017- 2020

University of Calgary

In this design-based research, we worked with a grade 3/4 mathematics teacher and the students in her class to study how a game design approach can support learners' mathematical literacy and mathematics identity. We also conducted three workshops for the teachers at the school on using game design for developing mathematical literacy.

Research Assistant, Using game creation as an interdisciplinary learning tool

2016-2017

Dr. Beaumie Kim, Werklund School of Education

University of Calgary

The purpose of this design-based study was to encourage grade 8 students to create games that integrate different topics in sciences and social studies. The data collected in this project was analyzed to evaluate students' interdisciplinary learning and how they developed skills such as creative design and systems thinking.

Research Assistant, Playing with Gameful Activities and Assessments: Avatars and Experience Points in a Graduate Course

2015- 2017

Dr. Beaumie Kim, Werklund School of Education

University of Calgary

This project evaluated findings from the course, designed by Dr. Kim, that engaged graduate students in the concepts and practices of game-based learning. This project, specifically, evaluates the course design elements, such as avatars and gaining experience points and the use of social media technology, and how learners were engaged in the course in a gameful manner.

Research Assistant, The Economic Benefits of Good Selection Practices

2014

Dr. Piers Steel, Haskayne School of Business

University of Calgary

In this project, we planned to estimate the impact of improved selection through a systematic review that draws on the field of Human Resource Management and Labor Economics. We considered the costs of not using a modern personnel selection system for the economy. Specifically, relying on the analysis of data from thousands of digital records collected through employee selection processes, we considered the benefits of "synthetic validity" as a process that has the capability of creating and justifying a selection procedure based on a job analysis.

Learning Deficiencies of Established Firms

2013

R. Bastani, M. Samea

In this critical literature review we tried to find deficiencies in dynamics of learning in a well-established organization that might prevent adapting to the dynamics of the market. We studied how firms can expand their learning capability and exploit it as their most important source of competitive advantage in a changing environment.

Effective Employee Training: A Case Study

2012

R. Bastani, F. Sodagari, H. Koohi

In this study, we used focus groups and interviews to assess the training requirements for employees at one of the departments of a multinational company with about 9000 employees. Based on the analysis of the data, we evaluated the effectiveness of the current training system and designed a training program guideline to modify the system.