

Pre-Conference Workshop: Let's Play- Improving our Teaching in the Medium of Board Games

Peter Jamieson
Department of ECE
Miami University, OH, USA
Email: jamiespa@miamioh.edu

Karen C. Davis
Department of CSE
Miami University, OH, USA
Email: davisk4@miamioh.edu

Eric J. Rapos
Computer Science, Faculty of Science
Ontario Tech University, ON, Canada
Email: eric.rapos@ontariotechu.ca

Abstract—This workshop paper focuses on exposing faculty to how the medium of board games provides an exceptional space for faculty development for our teaching and student learning. The “Let’s Play” intervention [1] takes the form of a workshop where participants have opportunities to experience role reversal through being a learner again. Participants become active learners by playing board games that help them remember the experience of being a learner again. By choosing different types and styles of games, we can provide a space for the participants to discuss broader teaching practices, such as the importance of technical vocabulary, scaffolding ideas as we teach them, and the benefits of student-centered learning approaches. Another critical aspect of this intervention is that we hope to use role reversal to remind teachers how hard it is to learn in the hope that teachers will have more empathy for their learners. In this paper, we describe our workshop structure and pertaining literature and ideas on why board games are part of this medium. **NOTE that many past participants are looking for how to use games in the classroom. This workshop does not address that aspect of the medium even though we have experience in this space [2].**

I. DESCRIPTION AND RELEVANT LITERATURE

This workshop focuses on exposing educators to the “Let’s Play” model of using board games as a medium to improve our learning and teaching as part of Professional Development (PD). Participants will experience how playing games is tightly connected to experiential learning and allows teachers to experiment with teaching ideas in time-compact activities. In particular, ideas in education such as EBIPs (Evidence-based Instructional Practices) [3], technical vocabulary [4], and culture of the classroom [5] can be experienced/experimented-with in a relatively short period. Also, playing games is fun.

We have been running workshops in the “Let’s Play” model since 2022 [1], and we have developed a deeper understanding of how board games can be a role reversal opportunity for “expert” teachers to be learners again. These shortened experiences help teachers learn and experience different ideas related to better teaching. We have implemented workshops on these ideas in various spaces and continue to push how board games provide a great medium to learn how to improve our teaching skills in PD. Our goal for this workshop is to further expose faculty and leaders to the benefit of using board games to experientially convey learning and teaching ideas, focusing on how board games are great experiential systems in which teachers can experience what it is like to be a learner again, and

in this, they can better understand and experiment with how teaching and learning board games (and playing) are strongly connected to PD for teachers.

In particular, board games have some properties that make them a strong fit with PD of teaching:

- It is a major challenge to convince faculty that they should improve their teaching, and we argue that PD for teaching is focused on the mechanics of teaching in Higher Education and includes applying small interventions to improve our teaching. Continued professional development is fundamental for all teachers, but how can we provide the right experiences to help faculty further improve their teaching skills? Playing and teaching games focuses on the mechanics of the process but is a step away from each of our academic expertise.
- Being exposed to new games as a learner is a role reversal moment that helps teachers empathize with students on how hard it is to be a novice learner. It also provides an illustrative moment to identify how the expert and learner sit in very different mental model spaces and how difficult it is to help a learner grasp new concepts.
- Board games are compartmentalized activities that take approximately 1 to 2 hours. Because of this time, games provide realistic time frames to test out teaching ideas and practice teaching.

For context, we provide details of the initial organization of our first Faculty Learning Community (FLC) [6]. The 2022-23 FLC was organized around ten sessions. Seven of those sessions had the FLC participants play games taught by one of the two facilitators (Dr. Jamieson and Dr. Rapos) using relevant and varied teaching methods. After playing the game, the group discussed how it was to experience playing the game as related to specific themes in teaching. We published a work-in-progress paper on evaluating this experience [7].

Table I shows the first seven meetings in order, indicating the board games played and the themes they aim to highlight. Game complexity typically increases as the FLC progresses, and the hope is that progressing in this way will help learners increase their experience in learning games. This is a longer-term scaffolding approach [16]. Each of the seven playing activities is accompanied in column 2 with some teaching theme/idea, and we have provided citations to some of these

Table I
THE SEVEN GAMES PLAYED AND THE TEACHING THEME TO BE DISCUSSED

Game	Teaching Theme
Quoridor	- Technical vocabulary [4] - Filtering learning objectives [8]
Whist	- Technical vocabulary - Working in groups [9], [10] and competition [11], [12]
The Crew	- Working with groups and cooperation
Barnge [5]	- The unwritten rules of classroom culture [13]
Dominion	- Managing and experiencing complex systems - Inverted (flipped) classroom [14]
Castles of Tuscany	- Increasing complexity and learning something for the first time
Grizzled	- Games and the more direct links to what we teach (history example [15])

ideas where possible.

The final three meetings of the FLC are focused on the participants teaching a board game to a group of others, playing the game as a group, and allowing for a post-critique of the teaching to allow the teacher to get feedback on their teaching approach. We have created a protocol for this approach that we are happy to share, but depending on time, these opportunities are not typically feasible in the 1 to 3-hour workshop model.

One key aspect of an FLC is that the goal is not to provide a specified curriculum to improve teaching by prescribing skills and knowledge. Instead, the goal is for a learning community to have a focused discussion for a formalized theme (as prescribed by Cox [6]), with the participants helping guide the experiences. In 2023-24, we ran a more focused PD group at the College of Engineering and Computing at Miami University to experiment with a curriculum for PD to improve teaching.

Our FLC and PD intervention and workshops are driven by the idea that role reversal allows a teacher to experience being a learner again. Role reversal, in the literature, is most commonly applied to the education space in language education. Lowe is the first to suggest role reversal as an experiment with training teachers [17], and several researchers have extended this idea in small studies, including Suleiman [18] personal reflection approach on role reversal experiences. Walter [19] looked more generally at role reversal as a teacher training model.

Role reversal has been linked to education based on how it develops empathy first by Malkeir [20]. Jones discusses the importance of empathy in teaching with his case studies of teacher education in Makerspaces [21]. Meyers *et al.* further differentiate the concept of empathy to a formalized concept of “teacher empathy” [22], which they attribute to Rogers [23]. In this collective research space, the claim is that “teacher empathy” is fundamental to the learning process. Meyers *et al.* provide some suggestions on how to work on improving teacher empathy by communicating empathy to students, learning about individual students, and trying to understand the social context students exist in. Similarly, Slater and Inagawa

[24] look to role reversal as a means of bridging cultural divides that can exist between teachers and their students.

For this work, our intervention provides a space where teachers can experience role reversal to increase their understanding of how hard it is to be a learner and why some teaching approaches may help. The central premise of our approach is to allow educators to have opportunities to experience role reversal by being a learner again [17] to get a deeper appreciation of evidence-based teaching practices and their feel as the learner in hopes that this will convince the teacher to adopt the strategy.

In our model, PD participants take on the role of active learners by learning and playing board games to help them remember the experience of being a learner again. By choosing different types and styles of games, we can provide spaces for the participants to discuss broader teaching practices. In this workshop, we will focus on ideas on technical vocabulary [4], scaffolding concepts as we teach deeper complexity [16], and the benefits of student-centered [25] learning approaches. Another critical aspect of this workshop is that we hope to use role reversal to remind teachers how hard it is to learn, and this will inspire teachers to have more empathy for their learners [20].

The remainder of this paper describes our workshop organization, which we propose to conduct at FIE 2024 with two facilitators. Section II describes the workshop regarding goals, plans, and outcomes. Section ?? provides additional details and logistics to what would be needed for the workshop. Section III describes the facilitators.

II. LET’S PLAY - WORKSHOP

A. Goals

Assuming FIE’s goals are: *Embracing the Challenges and Transforming Engineering and Computing Education in a Technology-Enhanced World*, our goals for this workshop are:

- 1) Active experiences of how tabletop games can be used in PD for teaching and conveying related ideas.
- 2) An understanding of why faculty should be teaching and playing games for fun and to practice related educational skills.

- 3) Experiencing an activity that elicits a deeper understanding of what is happening in our classrooms.
- 4) Have fun, too!

B. Agenda and What to Expect During the Workshop

The workshop has been modified depending on time to include different activities. For the 3-hour workshop model, we will teach, play, and reflect on games to focus on 1) Technical Vocabulary, 2) Role reversal, 3) Scaffolding, and 4) the Culture of our classrooms.

The learning objectives for the workshop are:

- Participants will experience and reflect on what technical vocabulary is
- Participants will experience and reflect on how scaffolding and a learner's current understanding allow us to teach more complexity
- Participants will experience and reflect on a simulation showing the hidden culture we all carry into our classrooms
- Participants will be able to articulate to colleagues why playing board games in their institution is a form of PD to improve their teaching

Activity	Detailed Description	Duration
Introduction	Who we are, why we got interested in this, and what we have done with our "Let's Play" to lead us here.	10min.
Technical Vocabulary	Teach trick-taking OR Quoridor from a technical vocab approach with the game of choice. This is a technical vocabulary for the game.	15min.
Play	Play the game and reflect.	20min + 10min
Scaffolding for Complexity	Introduce a game variant in the paper handout to demonstrate how scaffolding allows a new form of the game to be played.	5min
Play	Play the variant game and reflect.	15min + 10min
Culture of the Classroom	Simulate a BARNGAnized [5] version of the game to feel ideas from the space of the culture of the classroom.	5min
Play	Play the game under the facilitation of the BARNGA activity and reflect.	15min + 10min
Conclusion	Final discussion of the activities and how we can use games to experiment and practice teaching and learning.	30min

Table II

TIMELINE OF ACTIVITIES NOTING THAT THESE ARE ESTIMATES. WE ALSO WILL HAVE 5-MINUTE BREAKS BETWEEN EACH "PLAY."

Table II presents the detailed timeline of our planned activities. The table is structured into three columns: "Activity," which outlines the main components of our session; "Detailed Description," which briefly explains each activity; and "Duration," which allows for the specification of time allocated to each segment. This format enables a clear overview of the session's progression, from the introductory phase through various gameplay and reflection stages to the concluding discussion. The total time, as specified in the table, is 145 minutes.

We provide a worksheet in the workshop that provides participants with a space to reflect on the activities in a think-pair-share reflective approach [26], and the worksheet offers links to resources in the "Let's Play" model.

Note that the above can be modified depending on our expected workshop participant size and time constraints.

C. Expected Outcomes

Participants will experience different teaching ideas as learners. The key takeaway is how the medium of board games can be used at their institutions to engage with other faculty to improve our teaching and learning skills - and have fun, too.

Based on how the workshop runs, one of the major experiences is the playing of games and reflection on the feelings and experiences that participants have while being learners again. At the same time, the participants are aware of how things are taught and many of the recommended practices to improve the quality of their teaching. This opportunity to experience both the learning and teaching sides via the medium of board games provides insight into how effective the practice of improving our teaching via board games is.

III. ABOUT THE FACILITATORS

We document our workshops at the "Let's Play" website [1], and here we provide details of the facilitators, noting that only two of us can attend this conference.

Peter Jamieson is an Associate Professor at Miami for 14+ years who has published more than ten publications (many at this conference) in engineering education, focusing on Computer Engineering. The "Let's Play" model has co-facilitated 5+ of these workshops.

Karen Davis is a Professor at Miami with over 30 years of teaching and research experience. She has published over 40 papers in engineering and computing research (including six at FIE) and co-authored a database textbook [27]. In the "Let's Play" model, she has co-facilitated workshops and was one of the participants in our first FLC in 2022.

Eric Rapos will not be at this workshop but is our third facilitator for these workshops and is an Associate Teaching Professor & Undergraduate Program Director of Computer Science in the Faculty of Science at Ontario Tech University, working primarily on research in Software Engineering Education. In the "Let's Play" model, he has co-facilitated 5+ workshops and will run an FLC at Ontario Tech University this upcoming year.

IV. ACKNOWLEDGEMENTS

Miami University's Center of Teaching Excellence funded the initial 2022-23 FLC (and a second FLC in 2024-25), including a budget to acquire games, facilitate space, and feed our discussions. They organize the annual Lilly Conference and host "Let's Play" workshops at this conference. Miami's College of Engineering and Computing supported our Faculty Development in 2023-24. Through the SSHRC Institutional Grants program, the Social Sciences and Humanities Research Council of Canada (SSHRC) funded the 2024-2025 FLC at Ontario Tech University.

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