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Playful provocations and playful mindsets: teacher learning and identity shifts through playful participatory research

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ABSTRACT

Play is a core resource for how children learn. Yet current efforts to bring playful learning into schools often neglect the role adults play in embracing and modeling playfulness. This paper presents findings from a collaboration between the International School of Billund, Denmark, and Project Zero, a research organization at Harvard Graduate School of Education. The study examined Playful Participatory Research (PPR), an emergent qualitative methodology that is both teacher research and a professional development (PD) approach. Drawing on interviews with 21 teachers across the school, we found that PPR positively affects: attitudes towards PD; teachers' self-perception and identity; incorporation of play into teaching; and overall school culture. Implications suggest that school leaders who aspire to support learning through play in schools should design adult learning environments that mirror the playful learning environments they desire for children, by providing time, resources, and encouragement for playful teacher research and PD.

KEYWORDS

Teacher research; learning through play; teacher professional development; practitioner inquiry; adult learners

Introduction

It is 4:30 pm on a cold, dark, rainy February evening in Billund, Denmark. A small group of primary school educators are gathered around a table, looking at video documentation they have collected from their classrooms. Candles are lit, music plays in the background, and cozy chairs have been brought in for a more comfortable experience. Though it is the end of a long day of teaching, they are laughing with each other as they ask serious questions about the learning and teaching they see in the videos. Together, they build deeper understanding of the students they share and of the teaching practices they are exploring. They are engaged in a research process that involves observing, wondering, taking risks, and reflecting playfully with each other.

These teachers are based at the International School of Billund (ISB), an International Baccalaureate school located in Billund, Denmark. Over the course of several years, ISB educators, in partnership with researchers from Project Zero at the Harvard Graduate School of Education, have engaged in teacher research to study learning through play in a school context. Rather than ask outside researchers to evaluate the teaching and

learning happening at the school, teachers themselves have been invited into the process as co-researchers, observing and assessing their own learning community and drawing on their own expertise as educators. When they participate in the research process, practitioners are able to own their research questions, shape the trajectory of the research, co-create knowledge, and reflect together on emergent findings (Cochran-Smith & Lytle, 1999).

This paper explores the importance of infusing play and playfulness into teacher research communities. Teacher research means research conducted by teachers or other school-based practitioners and involves studying teaching and learning in schools, for the purpose of both deepening the practitioners' own practices and for sharing more widely with the education community (Perry, Henderson, & Meier, 2012). This type of research not only values the experience and knowledge that teachers bring to the table, but is also an authentic way to approach professional development – providing opportunities for educators to reflect with and learn from colleagues; dialogue about classrooms and learners; and produce a shared body of practice and theory for their learning community. Developing a community of practice – a cohort that gels around common questions, information, and insights – can have positive effects for institutions (Wenger, 2000), and teacher research communities of practice can help cultivate a shared identity around common questions and ideas (Escamilla & Meier, 2018).

A considerable body of research demonstrates that play can be a powerful vehicle for learning – it is, in fact, a core way that children learn (Cavanaugh, Clemence, Teale, Rule, & Montgomery, 2017; Hirsh-Pasek, Golinkoff, Berk, & Singer, 2008; Mraz, Porcelli, & Tyler, 2016; Pyle & Danniels, 2017; Taylor & Boyer, 2020; Vogt, Hauser, Stebler, Rechsteiner, & Urech, 2018; Zosh et al., 2018). Play helps set the conditions in which learning can thrive: in play children are relaxed, interested, and often challenged. Though the nature of the play might shift with age, (e.g. it may become more about word play and less about physical play as children get older), it continues to play a role in young people's intellectual, social, emotional, and physical development (Copple & Bredekamp, 2009).

If the role of play in learning is valued, teaching should reflect and embrace the ideals of play. Some prior studies, primarily focused on early childhood education, have explored the importance of supporting teachers to develop knowledge about play through teacher education and professional development (Isaacs, Roberts, Spencer-Smith, & Brink, 2019; Martlew, Stephen, & Ellis, 2011; McArdle, Grieshaber, & Sumsion, 2018; Ryan & Northy-Berg, 2014). Yet what is the role of play in the adult learning environment? If we aim to infuse children's learning experiences with experimentation, responsible risk-taking, wonder, laughter, delight, and agency, wouldn't we want to model this as adults in the school community and provide playful learning experiences for educators? One small study found that a play-based approach was well-received by pre-service teachers in Turkey (Mirzeoglu, 2015). However, research on play-based approaches for teacher professional learning is presently limited. The aim of this paper is to share research exploring what happens when educators engage in playful teacher research together as a form of professional learning. The findings presented here draw on the Pedagogy of Play¹ research project at Project Zero. The questions that guide this paper are focused on teachers' experiences with a new teacher research methodology called playful participatory research (PPR):

- What are the qualities of PPR?
- What are the impacts of PPR on teachers and teaching?

Theoretical orientation and study context

This study is grounded in a theoretical orientation of teachers as knowledge producers for the education field (Cochran-Smith & Lytle, 1999). The Playful Participatory Research (PPR) approach is grounded in traditions of teacher research (e.g. Escamilla & Meier, 2018; Perry et al., 2012), also building on practitioner inquiry (Cochran-Smith & Lytle, 2009) and action research (Noffke & Somekh, 2013). Grounded in these strong foundations, in which teachers do not simply consume research produced by the academy but rather engage in their own rigorous research practices and contribute to the field, we view teachers as knowledgeable experts and individuals poised to conduct meaningful research deeply connected to their teaching practice.

The International School of Billund embraces this view of teachers as knowledge producers. The school, which serves approximately 350 children ages 3–16 and has a diverse international teaching staff and student body, draws on a guiding philosophy of learning through play at all ages. At the time of this study, the 2017–2018 school year, the school had been engaged the Pedagogy of Play research process with Project Zero for three years, with Playful Participatory Research being used across the school as a pillar of professional learning and teacher research.

For the 2017–2018 school year, all 75 teachers at ISB (with the exception of several new faculty) were invited to participate in PPR study groups as teacher researchers; 34 teachers elected to participate. There were five study groups, organized around grade level (e.g. the Kindergarten and the Middle Years study groups) or subject area (e.g. the Arts study group), with an average of seven teacher-researchers in each. Project Zero researchers and ISB teachers co-facilitated each group, though ISB teachers have since taken on full facilitation.

Study groups were established for teachers to actively investigate and influence the nature of playful learning at ISB. During study groups, teachers would share questions, look at classroom documentation together, and use discussion protocols to explore what they were learning about playful learning and their students. Teacher-researchers developed a community of practice (Wenger, McDermott, & Snyder, 2002) building collective knowledge around playful teaching and learning and cultivating a shared sense of identity. At the same time, study groups were designed to feel playful, with facilitators incorporating key principles of playful learning so that the adult learning environment would mirror the children's playful learning environment. A sample study group agenda can be found in Appendix A.

For the 2017–2018 school year, each study group member had two one-on-one Skype calls with researchers (one at the beginning of the school year and one mid-way through); four in-person meetings when researchers were at the school; and six online meetings. Study group members also met between monthly meetings to plan, prepare, or discuss their plans for documenting. Throughout the year, teacher-researchers also had opportunities to share their PPR work with the wider community through events such as a whole school Celebration of learning, all staff meetings, workshops for families, and 'Day of Play' sessions for visiting educators.

Prior to conducting this study, ISB and PZ co-developed a model of playful learning which conceptualizes learning through play as an experience in which learners experience *choice*, *wonder*, and *delight* (see Figure 1). These co-developed ‘indicators of playful learning,’ characterizing what learning through play looks and feels like at ISB, are now part of the vocabulary of the school. The Indicators informed our coding scheme for this study as well as our interpretation of the findings.

Methods

In order to answer our research questions, we used a multiple-case study approach (Yin, 2009) and pursued a thematic data analysis to understand teachers’ experiences with PPR.

Participants and data sources

We identified a purposive sample (Miles, Huberman, & Saldaña, 2014) of teachers at the International School of Billund to participate in the study. In total, 21 teachers were selected to participate, representing a range of levels of teaching (early childhood through middle school), cultural backgrounds, and number of years as classroom

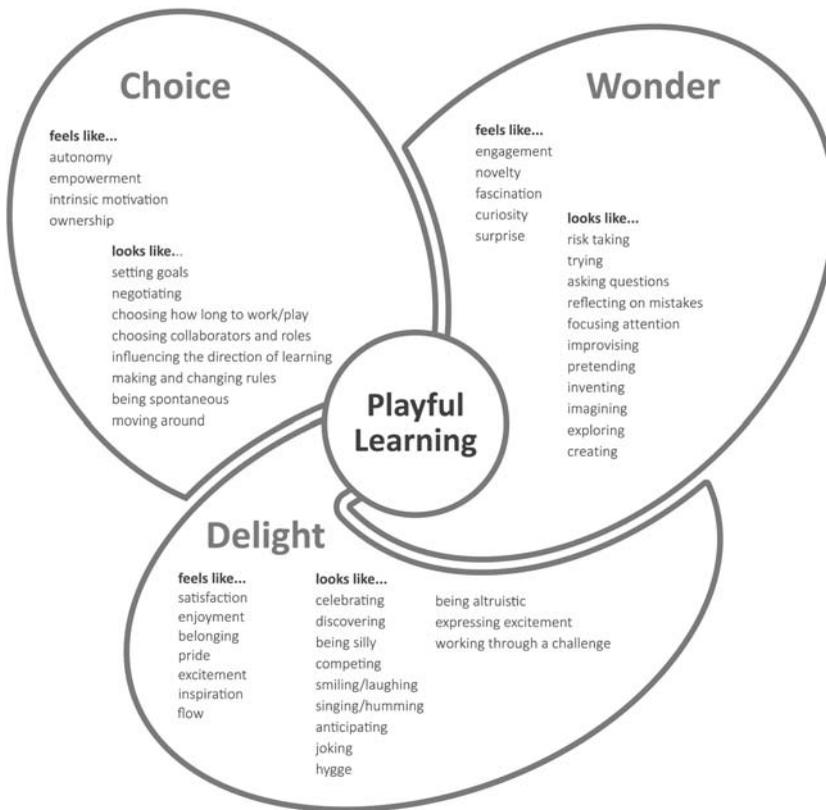


Figure 1. ISB Indicators of Playful Learning.

Table 1. Participant demographics.

Ages of Children Taught	# of Teachers	Countries of Origin	Years of experience with PPR at time of study
Kindergarten (2–6 yrs)	2	Ireland, U.K.	1–3 years
Primary Years (6–11 yrs)	6	Greece, U.K., Germany, U.S.A.	
Middle Years (12–15 yrs)	5	Mexico, Denmark, India	
Specialists (Art, Drama, Physical Education; 6–15 yrs)	4	South Africa, India, Denmark, Czech Republic	
Afterschool (2–11 yrs)	4	Denmark, Indonesia	
Total:	21	11 countries	

teachers. Detailed information about the participants' demographics can be found in Table 1. Each teacher was interviewed in-person by the researchers twice during the 2017–2018 school year. In order to elicit teachers' perspectives on PPR we asked questions such as *What has your experience been so far as a playful participatory researcher?* And *Do you find it playful to be a teacher researcher? If so, in what ways?*

Analytic approach

Drawing on Braun and Clarke's (2006) approach to qualitative thematic analysis, we pursued our data analysis as an iterative process of establishing codes, ordering data, and identifying themes. Throughout the process, we utilized analytic memoing to track our ongoing understandings of the data (Glesne, 2010). Our coding scheme involved both descriptive and *in vivo* codes. Descriptive codes included several key ideas about PPR from our prior conceptual work on PPR (Baker et al., 2016; Baker & Salas Davila, 2018) such as: *experiencing choice, wonder, and delight; co-researching with children; and playful provocations*. *In vivo* codes emerged based on repeated readings of the data, and included aspects of PPR such as *sharing research playfully, risk-taking, and learning from each other*. Having organized the data by code, we then grouped codes together to develop themes, and selected data examples to illustrate these themes.

Trustworthiness and study limitations

We, the authors of this paper, acknowledge that our own positionality influences our work as researchers. At the time of the study, we had both been PPR study group facilitators for several years at ISB, and we recognize that our closeness to the participants and this research process offers both benefits and limitations in our data analysis. We are also both white Americans, and the participants in this study are a diverse group of educators from around the globe. Prior to conducting this study, we had established relationships with the participants, and have considered that this may both have helped participants to be more open in their interview responses, but also that the power dynamic between us (as university-based researchers from a dominant cultural background) and the teachers could have affected their responses as well and is thus a limitation of the study. In particular, we recognize that we did not explicitly ask teachers if they *liked* engaging in PPR; and given the positive responses in the findings (see below) wonder if we should have asked this question more directly, or used an additional data source (e.g. an anonymous survey) to explore this question in a way that would have offered teachers anonymity.

In order to address this limitation and strengthen the trustworthiness of the findings in this study, we engaged participants in a rigorous member-checking process (Creswell & Miller, 2000) by sharing results from the study with them and eliciting their perspectives and feedback. Every single participant engaged in the member checking process. Their feedback was used to inform further iterations of the findings.

Findings

Findings are presented by research question. First, we share findings related to PPR qualities, then explore the impacts of PPR on teachers and teaching.

Qualities of playful participatory research

Given that PPR is a novel approach to research, the first focus of the study was to better understand the qualities of PPR, from the perspective of PPR teacher researchers. We present these findings thematically in three tiers: (1) qualities essential to participatory research but not necessarily specific to *playful* participatory research; (2) qualities that make PPR uniquely playful; and (3) obstacles that may inhibit playful teacher research.

Qualities essential to participatory research

In our thematic analysis of all teacher interviews, we found that some qualities of PPR described were not specific to *playful* participatory research, but were rather qualities of satisfying and effective participatory research more generally. Each of these qualities is described below.

Playful participatory researchers have time to do research. Participatory research requires a significant time commitment by the teacher researchers. At ISB, teachers who opted to participate in a PPR study group as teacher researchers were given additional planning time and compensation for extra hours spent on research outside of their usual work schedule. Study groups met monthly in two-hour sessions, and teachers also had weekly 45-minute sessions with fellow teacher researchers to talk about research questions, sort through documentation, or discuss puzzles that arose along the way. Many spoke of the importance of having this additional time, and mentioned how unusual it was to have the opportunity to engage intellectually with colleagues in this way. As Merete, a Middle Years teacher, explained, *I feel that [these sessions] are where we have time to actually talk pedagogy and didactics that we normally don't have time to.* Sahana, also a Middle Years teacher, added, *This time gives me different opportunities to look at different viewpoints,* and said that she valued having space to pull back from day-to-day teaching responsibilities.

PPR is meaningful and relevant. More than half of the participants mentioned that the work they were doing as teacher researchers felt meaningful and relevant to their daily teaching practice. Several spoke about selecting and pursuing research questions that were aligned with Units of Inquiry (curriculum units) in the International Baccalaureate curriculum. Gayle, an Early Years teacher, described this as a significant aspect of PPR: *I made the connection for myself between the [IB] unit and [play]. That was the big break for*

me. Ole, a Middle Years Programme (MYP) teacher, explained, *I think really we have achieved something this year. So in that sense it's been playful because it has been productive and it has been challenging ... it's been very relevant to our work.* This sense of relevance was supported, participants shared, by working in study groups with colleagues who taught similar ages of children or content areas.

PPR study groups are safe, trusting, and respectful spaces. The vast majority of teachers described their PPR study groups as spaces in which an atmosphere of trust and respect was cultivated. This sense of trust was essential, teachers explained, to fostering a playful environment, allowing PPR participants to take risks with their teacher research, and allowing for playful and honest discussions during study group sessions and casual meetings. Ann-Britt, an art teacher, described her study group, *we get along really well and we've gotten to know each other. So I feel like we can be playful in between, just with small comments that make us laugh and feel good ... part of making it playful is the company.*

PPR teacher researchers learn from each other. Nearly all teachers spoke positively about the group learning that took place in their PPR study groups. One core process utilized in PPR is the use of pedagogical documentation to understand and interpret the learning taking place in classrooms (Rinaldi, 2006). All PPR teacher researchers regularly collected documentation in a variety of forms (video, audio recordings, photographs, transcribed conversations) and shared this documentation with their study group colleagues both via an online platform called Padlet and in-person during study group meetings. Teachers described learning teaching strategies, sharing curriculum ideas, and gaining practical tips from each other while sharing documentation and discussing their classroom practices. For example, Athina mentioned, *I love Padlet and seeing new ideas from Gaby and Rachel who have more experience. As a first year IB teacher, that was really helpful. We add to each other.* Charlotte, a more experienced educator, agreed, *We have so many different perspectives and understandings and experiences. That means that you can't help but learn something with every [meeting], and I love learning.* This process of building shared knowledge and seeing each other as sources for new learning was a prominent theme across the teacher interviews.

PPR is responsive and evolving. Teachers repeatedly mentioned appreciating that the trajectory of their research processes were open-ended and could change over time. Study group meeting structures, research questions, and shared ongoing investigations were all described as responsive to the interests and needs of the individuals or the group. For example, Gayle described changing her individual research questions after an informal conversation with colleagues during a PPR research session, and mentioned how energizing that shift was for her research.

Teachers also spoke favorably about times when their suggestions about the format, timing, and content of study group sessions were honored. We found this theme of teacher research groups as responsive and evolving to be prevalent across the interviews. We turn now to an analysis of qualities unique to PPR.

Playful participatory research: qualities that make PPR distinct

Continuing with our thematic analysis of the data, we identified four themes that define the particularly playful qualities of PPR: *experiencing choice, wonder, and delight*; *participating in playful provocations*; *engaging children as co-researchers*; and *sharing research playfully with others*. Each of these themes is described below.

PPR teacher researchers experience choice, wonder, and delight. As explained earlier, one outcome of the PoP research has been a conceptual understanding of playful learning as involving elements of *choice, wonder, and delight* at ISB. We therefore used these terms as descriptive codes during data analysis and found that all participants made explicit references to *choice* (9 mentions), *wonder* (12 mentions), or *delight* (25 mentions) and the related *indicators of playful learning*. Table 2 captures some of these examples.

In these examples, teachers sometimes referred to *choice, wonder, and delight* together. Delight was the most commonly referenced (11 of 21 participants) and interestingly, nearly all references of delight were related to experiences in which participants described feeling a sense of community. These findings suggest that for teacher researchers at ISB, participating in PPR is largely experienced as a playful process.

PPR involves playful provocations. The data contained multiple mentions of PPR teacher researchers engaging in playful activities during study group meetings. Some provocations served the purpose of cultivating a playful mindset within the group. For example, Lisbeth, an afterschool teacher, described the ‘Oddballs Café,’ a provocation in which the study group leader set up the meeting room environment as a café with tablecloths, candles, and ‘menus’ instead of agendas.

I like the new way we are setting up ... I think it’s a great idea, the cozy style. It’s at the end of the day ... but we are still focused and working with the topics we’re supposed to be working with. I like that we are in a cozy atmosphere as well, so we can hygge [Danish word for “having a good time with friends”] while working.

Other provocations mentioned served a purpose of pushing research questions or ideas forward through playful encounters or activities. Participants described using creative materials, dramatizations, and games as playful provocations. As Ruth explained, *The activities set the mood and tone – they create a space where it frees up thinking so you*

Table 2. Choice, wonder, and delight data examples.

Examples of references to choice, wonder, and delight

‘During study group and PoP-In time, **everyone is on board because of the choice** we’ve been given’ (Lene, Middle Years teacher)

The greatest satisfaction I’ve gotten is to show close colleagues some recordings of something they’ve done in their classes, and say ‘look! And **they’ve been completely blown away** by what’s actually happening in their classes, because you usually don’t notice it when you’re submerged in it’ (Tue, Middle Years teacher)

This year PoP has definitely been helpful, in an inspirational way. We have similar outlooks and goals [in our study group], and **we get good ideas from each other**’ (Rachel, Primary teacher)

We are so happy that we have opportunities to share ideas with others. Like, ‘Hey, see what happened in my group!’ or ‘see what happened in my class!’ And then we have those ‘aha!’ moments with others because we had some kind of commonality about something’ (Raquel, drama teacher)

‘I think it [PPR] was team building in a playful way ... it was always kind of **laid back and light-hearted** and I guess that’s a playful approach. It wasn’t stressful’ (Gayle, kindergarten teacher)

can think outside the box. A space where there's time for challenges. It's playful in that you're playing with ideas.

PPR involves children as co-researchers. When PPR teacher researchers are explicit with the children they work with about their research questions and research process, there is a potential for the children to become involved as co-researchers in the process. This might happen by engaging in the development of research questions, or by collecting or analyzing data. Based on prior conceptualizations of PPR (Baker et al., 2016), we anticipated that participants would describe engaging children as co-researchers in PPR and therefore included this as a descriptive code in the data analysis process. In fact, four participants did mention this. Sorina, a Primary Years Programme (PYP) 4th grade teacher, described sharing video data with the students in her class and engaging in co-analysis using the indicators of playful learning as part of her research process. However, the majority of participants did not mention engaging children in their research process explicitly. Implications for this finding are discussed below.

PPR involves sharing research playfully with others. A final defining theme of the playful nature of PPR had to do with the ways in which PPR teacher researchers share their research with others beyond their study groups. At ISB, all teacher researchers engaged in an end-of-year school-wide celebration to share their research findings with colleagues, children, families, and the wider community (e.g. faculty from other schools and local politicians). The format in which study groups shared their work was open-ended, and several participants mentioned the process of developing a range of materials and formats for sharing their work, including books, board games, posters, and interactive presentations. Liviu, a physical education teacher, spoke about his group's experience creating a game that was then played by his colleagues at the celebration. He said, *It's playful because as our final product, we ended up creating a board game about the Pedagogy of Play principles. I love board games, so it's something really fascinating for me.*

Simone, an afterschool teacher and woodshop specialist, spoke about creating a book as her group's way of sharing their research findings: *We did our own little thing. We made an activity book for after-school club. Which has been cool.* Overall, teachers spoke proudly about their engagement in the playful and creative process of developing materials and sharing their work at the celebration.

Collectively, these findings inform understandings about qualities of PPR that distinguish this research methodology as a playful experience for teacher researchers.

Obstacles and challenges to playful participatory research

Although every participant in this study primarily spoke about PPR as a playful experience, approximately half of the teachers interviewed also mentioned some elements that hindered playfulness in the PPR process. Some of these non-playful elements were logistical. For example, having meetings late in the evening after a long day of teaching was the most frequently mentioned element of PPR that detracted from, rather than added to, playfulness. Awanti named this, *I know it sounds awful, but at 5:30 pm to expect my colleagues to sit down and give me a really exciting discussion or argument – which is what I would have found playful – is really ... hard.* Others mentioned that it was sometimes

hard to find the time to prepare thoroughly for study group sessions; this led to a sense of guilt that was not playful. Merete said, *I feel guilty if I forget to do a See-Think-Wonder [a protocol used to examine and reflect on documentation in PPR] or look at documentation.* Learning to document and building this into teaching practices was also described as challenging by some. And one teacher expressed frustration when her teacher research generated interesting ideas that she wanted to test out in the classroom, but were limited by structural school factors, such as funding or government regulations.

Finally, although teachers frequently mentioned a sense of collegiality and community in their study groups, we found that for some, mixed study groups, in which teachers did not share children or teach the same kind of content, were experienced as less playful and at times a hindrance to the PPR process. A teacher who participated in a mixed study group with colleagues from across the school, explained, *It's been hard to have any common ground. I just always feel a little bit alone. I think that's something that has made it hard to stay motivated as a teacher researcher.*

These examples highlight some of the obstacles that may inhibit PPR researchers from experiencing a playful mindset. We turn now to the impacts of PPR on teachers and teaching.

Impacts of playful participatory research on teachers and teaching

Despite the logistical and structural challenges teachers noted about the PPR method, the majority of our interviews suggested that engaging in PPR directly impacted their practice. Teachers described the impacts of their participation in four main ways: (1) impacts on professional learning (e.g. specific skills learned) as a result of participating in PPR; (2) impacts on classroom teaching (3) shifts in self-perception and identity, and (4) impacts on school culture.

PPR impacts teachers' professional learning

Many teachers described skills they acquired, or improved at, as a result of participating in PPR. Many teachers reported that participating in PPR helped them better understand the techniques and value of documentation – the processes and products used to ground conversations, such as short videos, analysis of student work, pictures and dialogue. Raquel, a drama teacher, described the process of sharing documentation back with students. While reflecting had always been a regular part of Raquel's practice, engaging in PPR helped her see the power of incorporating documentation into the reflective process. *'I always thought that I reflected quite a lot,' noted Raquel, '... but then I realized maybe I should be showing the students more videos so they can go back and see what they've done.'*

Through PPR, teachers also noted that documentation and observation became routine tools for discussion and planning. Sorina described how this became part of her daily practice. *It's slowing down – slowing down and paying extra attention to what you and what the students are doing, and wanting to come back to that... 'This is what we see, what do you see?'* In thinking about the merits of observation, Merete reflected, *For me, having a focus on different students than I maybe normally would have – I have a different relationship with those students. I've become more aware of different learning styles amongst my students.* Over time, ISB teachers and Project Zero

researchers also developed and adapted a range of tools for documenting and looking at documentation, which some teachers described as impactful and helpful to their practice.

PPR impacts classroom teaching

Perhaps more germane to *playful* participatory research, many teachers reported that participating in playful research inspired them to incorporate more *choice*, *wonder*, and/or *delight* into their lessons – in other words, to be more playful teachers. For instance, reflecting on conversations during an arts-focused study group, Ann Britt notes *I've changed in some ways, like the way that I think and in the ways that I plan my teaching*. She continues, *I'm in a process right now that was triggered by our discussions in our meetings*.

Charlotte, who works with struggling readers and English language supports in the PYP, explained that she had initially thought her reading lessons with students would not feel playful, but that engaging in PPR, *forced me to look at it from a playful point of view and to try to reintroduce that element of play into their experience of something they associated with struggle*.

Participating in PPR influenced teachers' willingness and inclination to experiment and take risks in their classroom. In the MYP study group, teachers brainstormed ways to give students more ownership over their learning. Together, they designed an experiment where students created their own schedule for a two-week period of time (the Student Composed Scheduled, or SCS). In order to reflect on the experience and gauge its successes and challenges, MYP teachers closely observed and documented how the SCS played out for learners.

PPR influenced teaching moves and classroom practice, as the study groups provided a venue for them to plan collaboratively, feel supported in testing out theories, and have time to debrief and reflect together as a community.

PPR impacts teaching approach, self-perception, and identity

As teachers felt encouraged to experiment and test out ideas in the classroom, nearly half reported viewing themselves differently as teachers or as thinkers after participating in PPR. As Charlotte explored new ways to frame her lessons, she noted *I am definitely prepared to take more risks*. In the British system where she had previously worked, the emphasis was on end goals, and how to quickly meet them. Charlotte shared that working with PPR allowed her the space to explore an idea and have a different mindset: *I can say, 'Hm, this is an idea. I'm not entirely sure what's going to happen but I can afford to take the risk of trying it ...' [T]hat change in mindset has given me many opportunities to extend my teaching and made me more willing to try things I wouldn't have in a more constrained environment*.

When asked if anything had changed as a result of participating in PPR, nearly half of the teachers named their adoption of a more playful mindset. Ruth, for instance, described how PPR inspired her to refocus on play and being playful herself: *I also think being a teacher researcher brings you back to playing with children in your class more ... I think it's reminded me to take the playful moments with the kids*. Kathrin echoed this sentiment: *I think [PPR] has helped me a lot this year to reflect on what I'm doing and constantly remind myself to be playful*.

Several teachers also noted that being engaged in research through study groups reshaped their self-perception as teacher researchers. When asked whether it feels playful to be a part of the study group and to do the research, Farah responded, *Yeah, I think so. I mean, it's not like the normal research that we used to do at university, so I think it's really nice. And we get to explore things that we've been wondering about hands on with the kids.* Though not a prevalent finding, Farah's comment has implications for the field of educational research; we'll consider this perspective more in our discussion.

PPR impacts on school culture

Our findings suggest that another outcome of PPR is a sense of community, cultivated when teachers collectively work towards a common goal, share thoughts about students across disciplines and contexts, and support each other in intellectual pursuits and curiosities. Tue, MYP coordinator and middle school teacher, described how PPR study groups allowed for community-building across the school, as teachers gathered to share what they were exploring through their questions and explorations: *I really loved hearing about what they were doing in the after-school and the PYP. The interesting part is that some hypotheses that came out ... I remember getting some of these ideas by looking at commonalities [across documentation].* Overall, we found that ISB's school-wide adoption of PPR as an approach to teacher professional learning positively affected school culture. Teachers felt that participating in a PPR study group led to a stronger sense of within-school community and a shared sense of purpose.

Discussion

Taken together, study findings provide evidence that, although there are some obstacles that may hinder playful research, teachers' experiences as PPR teacher researchers were largely positive, and benefits for both individuals and school-wide culture were noted. We find several key trends worthy of further discussion.

Joyful research as delightful professional learning

Consider the teacher researchers in this study who described their research endeavors as evoking delight and joy. They spoke of the pleasure of being engaged in an endeavor of professional learning and building knowledge and shared understanding with colleagues, of professional development that felt meaningful, relevant, and delightful. These experiences connect directly with choice, wonder, and delight – the *indicators of playful learning* framework presented earlier in this paper – and indicate that teachers engaging in PPR are experiencing playful learning themselves. For example, as Farah mentioned, PPR expanded her idea of what research could be – an indicator that she experienced a sense of wonder being a PPR researcher. This is not insignificant, especially when considering that PPR may be utilized both as a research approach and a tool for teacher professional development. Prior research on teacher professional development shows that teachers dismiss professional learning experiences that don't connect to their values and interests (Kragler, Martin, & Kroeger, 2008), but PD in which teachers have choice and agency is linked to positive changes in classroom

practices (King & Nomikou, 2018). Consistent with findings from Mirzeoglu (2015), teachers both enjoyed and learned from this playful approach to professional learning, suggesting that using play-based approaches for teacher professional learning could have value. Might PPR offer an alternative PD model that is not only meaningful but joyful as well?

Several aspects of PPR seemed to contribute to this sense of joyfulness that teachers described, including engaging in playful provocations to explore research questions, and sharing research playfully through non-traditional methods such as creating books, games, and interactive demonstrations. Furthermore, given that teachers at ISB had a shared understanding of what learning through play looks and feels like, they used the vocabulary of choice, wonder, and delight to describe their experiences. We suggest that this shared vocabulary, coupled with engaging in playful provocations and shared projects (e.g. creating a book or a board game for colleagues) contributed to the increased sense of community that surfaced as an impact of PPR.

Interestingly, we also found that teachers had different conceptions of what they considered playful about PPR. For example, while Tue found participating in a study group with mixed colleagues from across the school stimulating, others were frustrated when they were not in a study group with colleagues who shared a similar teaching focus. This suggests an individual nature of playfulness; e.g. that what is playful to one person may not be playful to another.

We wish to emphasize that although the teachers in this study were focusing their teacher research on studying *play*, PPR could be an approach for professional learning that would allow educators to playfully explore other topics as well. For example, a study group of teachers could use PPR to consider issues of equity in their school context, or to focus on supporting children and families recovering from trauma. Although a playful approach to professional learning may seem out of place for learning about difficult topics such as these, a playful mindset, which opens up space for generating new ideas, pondering new possibilities, and collaborating with others, might be just the approach that is needed for tackling the most difficult issues facing schools today.

From playful research to playful teaching

The teachers in this study remind us of the importance of adopting a playful mindset and bringing more play into teaching and learning. Grounding teacher professional learning at ISB in a PPR approach meant that teachers had sustained opportunities to engage in playful provocations and conversations that led to approaching teaching more playfully, and incorporating more playful approaches in their classrooms. Given the literature on the value of learning through play (LEGO Learning Institute, 2013; Taylor & Boyer, 2020; Zosh et al., 2018), this is an important finding. The fact that teachers who participated in playful learning processes through PPR experienced shifts in their mindset and identity as educators, adopting a more playful stance in which they were more likely to take risks, try new approaches, and experiment in their teaching, could be extremely valuable for schools hoping to shake up teaching approaches and energize teaching and learning processes.

Valuing play, adult learning, and teacher research

Although teacher research is recognized as a valid form of education research and has a presence in both education research conferences and publications (Escamilla & Meier, 2018; National Association for the Education of Young Children, n.d.), few schools presently utilize teacher research as a school-wide approach. Yet findings from this study illustrate the array of potential benefits to be reaped when school leadership endorses and makes time for teachers to engage in playful research. Consider Merete and Sahana experiencing a sense of *wonder* while finding unexpected opportunities to talk about the role of play at ISB, or Ruth feeling *delight* as she gained new energy *choosing* and exploring her research questions, or Tue experiencing *delight* in a sense of community with colleagues he rarely interacted with across the school. Recall also that teachers began to take more time to observe their students closely and documented play and playful learning more intentionally. Some described this as a luxury, although prior research suggests that the processes of observation and documentation are critical to thoughtful, student-centered teaching and assessment (Edwards, 1993; Kang & Walsh, 2018; Rinaldi, 2006).

We believe that these benefits were reaped primarily because school leadership provided time, resources, and encouragement for teachers to engage in playful research, demonstrating their commitment to teachers as playful researchers. This commitment from school leadership appears to be quite powerful. By setting up study groups driven by teachers' questions and centered around playful learning, the school administration gave teachers permission to be playful, simultaneously dedicating time to focus on children's play and adult playfulness.

The education reform literature is rife with stories of unsuccessful attempts at improving school culture as well as teaching and assessment practices (Cochran-Smith & Fries, 2001; Hargreaves & Shirley, 2012; Perkins & Reese, 2014); here we seem to have a recipe that works. Considering the benefits on student achievement in schools with a positive school culture and educators who have a shared sense of efficacy (Chan, Lau, Nie, Lim, & Hogan, 2008), PPR may be a promising practice for cultivating more positive schools.

Implications and directions for future research

Findings from the present study have potential implications at several levels: for educators, school leaders, and the field of education research. Educators who wish to be more playful teachers should seek professional learning experiences that involve playful approaches and embrace a playful mindset. Teachers who are already engaged in teacher research might consider infusing more play and playfulness into the research process, for example by trying a playful provocation, in order to stimulate creative thinking and enhance the research process. Teachers interested in trying the PPR can find guidance in Baker and Salas Davila (2018) and should consider that PPR could be valuable in studying other topics beyond learning through play. We hope that other teacher researchers will try using PPR to explore issues of equity and social justice, for example, potentially bringing new possibilities and expansive thinking to a pressing issue in education internationally.

School leaders who aspire to support learning through play in their schools may consider designing adult learning environments that mirror the kinds of playful learning environments they hope to cultivate for children (Mardell & Uhre Fog, 2017). Even without significant time or resources to allocate to trying PPR in a school, there could be many entry points for infusing more play and playfulness into school processes: in professional development or in-service workshops, in staff meetings, during the hiring process, at parent-teacher conferences, and during teacher evaluations or assessments. And as we have seen in this study, school leaders who provide time for teachers to engage in teacher research communicate that this work is valuable, and set the stage for developing a positive school-wide community.

For the education field more broadly, the finding that PPR research findings can be communicated in a range of playful ways (e.g. by creating a board game or an interactive playful activity), rather than through traditional means of stand-and-deliver presentations or research posters, is a provocative call to action. Yet structures that currently exist in education research seldom encourage flexibility or creativity in the presentation of findings; consider the submission guidelines for most educational research conferences. We hope that education researchers at all levels might consider the findings from this study as an invitation to think outside the box when sharing research results. We have begun to test this out, for example, by incorporating playful materials that support our learning goals into our presentations at education conferences, and will continue to consider if our means of presenting PPR research elicit feelings of choice, wonder, and delight for those in the audience.

Directions for future research

Questions lead to new questions; naturally we now have numerous ideas for future research directions. First, findings suggest that few teachers were engaging children as co-researchers in PPR. We wonder if perhaps teachers are doing this, but our interview protocol did not probe specifically enough on this point, or if the potential for engaging children as co-researchers in PPR is being underutilized. Given that play is a natural way that children learn, the potential for playful research to involve children is a natural fit, and we hope that ongoing PPR work may continue to explore this potential.

We also know that the nature of play and the nature of learning are contextually specific. That is, learning through play is shaped by culture, which means that what play looks like at one school (e.g. choice, wonder, and delight at ISB) is *not* necessarily what it looks like at another school (Solis, Khumalo, Nowack, Blythe-Davidson, & Mardell, 2019). This also suggests that teacher experiences with play and playfulness will shift from culture to culture; thus, additional research on PPR is needed to explore whether these findings are consistent across contexts and cultures. Explorations of PPR in other contexts, for example with educators using PPR to study topics other than learning through play, or in a school without a learning through play mission, or with individual educators engaging in PPR without school-wide administrative support, would also shed additional light on teachers' experiences with PPR. Would the benefits of PPR shown in this study occur without the school-wide administrative support as was present at ISB? We hope that future playful teacher research may continue to explore these and other questions.

Note

1. Pedagogy of Play is a research collaboration between the LEGO Foundation and Project Zero, a research organization at the Harvard Graduate School of Education. The project launched in Denmark in 2015 with participatory research at International School of Billund. For more information, please visit <https://www.pz.harvard.edu/projects/pedagogy-of-play>.

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Appendix A: Sample Study Group Agenda

Kindergarten Study Group Agenda

November 2017, 11:30–13:30 in Kindergarten Creator Space

Materials

- Post-its and pens
- Bubble Catcher copies
- Copies of *Being a PoP Teacher-Researcher*
- Cable to hard-wire internet

Welcome and Replay (10 min)

Replay: share a moment of playful learning that happened today or yesterday at home or at school

Documentation Speed Dating (60 min)

- Documentation will be on Padlet
- Give everyone a 'bubble catcher' sheet – explain that after each round we will have 1 min to write down an idea we don't want to lose It could be a See, Think, Wonder comment, but doesn't have to be
- 7 min documentation rounds. Each team gets 7 min to:
 - Share their question
 - Remind us of the documentation
 - Share something they learned about the question or a new puzzle, with a couple of minutes for others to respond

- After each round, 1 min silent writing time to jot down ideas in bubble catcher
- At the end, people choose a favorite bubble-catcher comment to share in a round

Today's Provocation: *Being a PoP Teacher-Researcher* (30 min)

- Framing: We want to unpack the role of being a teacher-research in more depth, to set us up for our work together this year
- Read over the document *Being a PoP Teacher-Researcher*
- Jigsaw – pair up, each pair is responsible for one section of the document
- Text rendering – each pair pulls out a sentence, phrase, and word to represent that section Read these aloud
- Reflections – What's something about being a teacher-researcher that excites you? What's something you want to work on?

Brainstorming topics for readings/playful provocations (10 min)

- As we saw in *Being a PoP Teacher-Researcher*, one way to investigate our research questions is through playing with ideas that other people have generated related to our questions Think about your question – what kinds of things would you want to read/do/try to learn more about your topic?
- Give quiet thinking and writing time for people to sit with their question and consider what would be useful
- Facilitator models with an example
- Write ideas on the board – take a photo at the end to remember the ideas

Reflection (10 min)

- On a post-it, write down:
 - A Star – something that you learned or were inspired by in this study group meeting
 - A Wish – something you hope we will do next time or in the future
- Give those who want to a chance to share out before we go

Reminder

Next PoP In (tomorrow) will be time to plan for your next round of documentation and post it to Padlet