

# More than one way: An approach to teaching that supports playful learning

A Pedagogy of Play working paper<sup>1,2</sup>

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## Play, playfulness, and learning

The evidence is clear: play supports learning (e.g., Bateson & Martin, 2013; Frost et al., 2012; Hale & Bocknek, 2015; Hirsh-Pasek et al., 2009; Honeyford & Boyd, 2015; Plenty, 2015; Sullivan, 2011). Play can be joyful, iterative, socially interactive, meaningful and actively engaging (Zosh et al., 2017). These emotional, social, and cognitive features of play are why it can powerfully support learning. Play increases children’s motivation. It helps connect children’s knowledge, experiences, and interests. In play, children’s attention is focused. They persist through challenges and engage in deep learning, which supports them in consolidating skills and retaining what they have learned (Liu et al., 2017). Because play supports learning, it should have an important role in school.

While play is often seen as an activity—soccer, chess, or a math game—it also involves a mindset, an outlook and approach towards activities. When participants experience activities at school as empowering, meaningful and joyful, these activities become playful learning. Mindsets can differ among participants; what is playful for one is not playful for all. Thus, playful mindsets are central to play’s role in learning at school. There are three important educational implications here. First, playful learning can be part of any subject because almost any activity—exploring prime numbers or writing a composition—can be playful. Second, promoting playful learning involves teachers activating and cultivating students’ playful mindsets. Third, to activate and cultivate playful mindsets for all students, educators need to be flexible, spontaneous and open to surprise. They need to be playful, taking a *more than one way* approach to their teaching.

In this working paper, we explore this third implication: the teaching approach of more than one way and its importance in promoting playful learning. We begin with a brief explanation of the Pedagogy of Play (PoP) USA research on which this paper is based, and then turn to an example from a 4<sup>th</sup> grade classroom that illustrates what is play for one isn’t play for all. We then explain the teaching approach of more than one way. Two additional classroom examples—from early childhood and middle school—are shared to illustrate how more than way supports playful

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<sup>2</sup> 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 began in 2015 at International School of Billund, Denmark, and expanded to research sites in South Africa, the United States, and Colombia. At each site, educators and researchers work together to explore culturally relevant models of playful learning. For more information, please visit <http://www.pz.harvard.edu/projects/pedagogy-of-play>.

learning. Our analysis concludes with a discussion about how the idea of more than one way may fit into a pedagogy of play framework. A description of the research methods used in the PoP USA study is provided in an appendix.

## The Pedagogy of Play USA research

Through collaborative research with educators, the Pedagogy of Play (PoP) project explores the role of play in school, with the aim of creating more opportunities for playful learning in early childhood through high school. During the 2019-20 school year, the PoP team undertook a research project titled PoP USA. Motivated by the understanding that, while play is universal, it is also shaped by culture (Whitebread & Basilo, 2013), the project examined what playful learning looks and feels like in six Boston area schools. The findings, explained in depth in a companion working paper (Solis, et.al., 2021), demonstrate that playful learning in these schools is empowering, meaningful, and joyful.

The project was conducted at the Eliot School and The Josiah Quincy Elementary School (Boston Public Schools), Codman Academy (a public charter school in Boston)<sup>3</sup>, the Cambridgeport School (Cambridge Public Schools), and The Advent School and Atrium School (independent, fee paying schools). These schools were selected because of their commitment to education that involves playful learning. In these schools, we interviewed school leaders and observed and interviewed teachers in 17 classrooms, kindergarten through 9<sup>th</sup> grade.<sup>4</sup>

Although we believe our findings represent the practices we observed in classrooms and the ideas expressed by educators and students, we acknowledge that the views of our primary analytical team (authors Mardell, Solis, and Ertel) are shaped and limited by our experiences, perspectives, and values as educational researchers at Project Zero, a research center at a select private university in the Northeastern U.S. Our conception of playful learning is informed by our prior research and grounded in a social-constructivist perspective of human development and learning.

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The idea of more than one way emerged from analysis of observations and interviews in the six U.S. schools. The idea was tested and refined in further interviews with participating educators. This paper theorizes about what we believe is both a simple and powerful idea that supports educators' efforts to promote playful learning in schools.

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<sup>3</sup> A charter school is a school that receives government funding but operates independently of the local public school system in which it is located. Charter school laws vary from state to state, and some states have no charter schools at all.

<sup>4</sup> In the U.S., different schools and districts use various labels (i.e., pre-kindergarten, junior kindergarten, kindergarten, K0, K1, K2) to identify early childhood grade levels for children 5 years old and younger. Children in this study ranged from three to fifteen.

## What is play for one isn't play for all and the importance of more than one way

As he works on an assignment to write a myth, part of a unit of inquiry on ancient Egypt, The Advent School fourth grader, Jay<sup>5,6</sup>, is a picture of engagement. Pencil in hand, words flow. Jay's theme is the origins of sounds. At the start, his characters have to use sign language because the lack of sound means no one is able to speak.



Jay writing his myth

Jay explains, “I have a lot of ideas in my head, and I like to put it down on paper. I’m just thinking of myself sometimes as publishing books.” Asked if the writing process feels playful, he responds, “I mean, there’s two different ways [of playing]. Writing is not playful in a way that you’re interacting with other people, because it’s your own story. But it can be play with your mind, and you can make up anything you want.”

Jay’s playful mindset is ideal for learning. He is relaxed, engaged and challenged. He has framed the myth writing assignment as an opportunity to be curious, creative, and imaginative. Jay is finding joy in exploring the “what if…” space of learning. The writing activity has become, as in his second part of his definition, play. He is experiencing playful learning.

This is not the case for Shelia, a classmate sitting next to Jay. She is in a different frame of mind. Staring somewhat blankly at her paper, she scoffs at the idea that this writing is playful: “It’s not like playing! Playing is going outside and running around. Playing involves games.” It is clear from her tone of voice that Shelia does not care much for this writing assignment. To call the writing assignment playful for her would likely be a misstatement.

That the same activity can elicit very different feelings confirms an observation that *what is play for one isn't play for all*. While the open-ended nature of the assignment and the invitation to use

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<sup>5</sup> We use pseudonyms to refer to students in examples throughout the paper.

<sup>6</sup> In the U.S., fourth graders are generally ten to eleven years old.

one's imagination have set the conditions for playful learning, it is Jay's playful mindset that allows him to experience playful learning.

Jay and Shelia's teacher Christine Dowling has a level-headed response to her students' different feelings towards the myth writing assignment. She explains, "This is all a part of the process. Playful learning happens when students are allowed to enjoy what they're capable of, and to test out new things. Part of that testing means that students will find things that they don't like and that don't engage them. But that is okay, so long as students can approach the lesson in a way that rids them of anxiety over 'failing' and allows them to take risks."

At the same time, Christine does not take a *laissez-faire* approach to activating and cultivating her students' playful mindsets. She works hard to get to know her students' interests and abilities, and then provides them options to meet learning goals. Additionally, she provides different kinds of support to her students to help them playfully engage with activities. In short, she takes a more than one way approach to teaching.

## More than one way

More than one way is an approach to teaching grounded in the belief that there are multiple ways to learn, behave, and be a person. It is an approach that aims to create empowering, meaningful and joyful learning experiences.

Rather than focusing on a right answer, educators taking this approach structure lessons to help students learn and create strategies to solve problems and gain understandings. Questions that invite multiple perspectives and ideas are highlighted. These educators believe that classrooms are enriched by a range of ideas and differences.

When something isn't working for a student or group of students, teachers explore alternatives and ask, "What if we tried this?" They are curious about their learners and strive to get to know their students—their interests, abilities, ways of learning, and their funds of knowledge (Moll et al., 1992). They ask questions about their students' thinking and listen carefully.

More than one way requires flexibility. It also requires an openness to the surprises that having play in the classroom can bring. More than one way allows educators to co-construct empowering, meaningful, and joyful classroom and school environments with their students.

The approach also involves teachers having a playful mindset towards their own learning. With a sense of empowerment, meaningfulness and joyfulness, they seek to improve their teaching, individually and collectively, by trying, learning from mistakes, and refining their practice.

In the classrooms in which we observed during the PoP USA study, more than one way appeared in different facets of teaching. In the physical realm, teachers allowed and encouraged multiple ways for students to be with their bodies. Children could sit (or stand) in different ways during whole group discussions, individual work time, or small group conversations. For example, during a math activity 3<sup>rd</sup> grade teacher Amanda Murphy at the Eliot School told her students,

“You can sit on the floor, at your desk, wherever you are comfortable.” Teachers like Amanda see part of their role to help learners discover which physical ways of being support them in attending, contributing, and learning in their class community.



Writing poems in Suzie Krupiensi's 2<sup>nd</sup> grade classroom at the Cambridgeport School



Attending to a math lesson in Melissa Burns and Bob Dowling's 1<sup>st</sup> grade classroom at the Atrium School

More than one way also appears in the intellectual realm. Liz Caffrey, a middle school math teacher at the Atrium school, articulates the intellectual basis of more than one way in her domain when she explains:

There is more than one way to understand math, especially for function and algebra. There's more than one way to solve a problem, and also there is more than one way to represent ideas. Sometimes there is a better, more efficient way, but it doesn't mean there's one way. Having lots of tools and perspectives on things gives you a more rounded ability to problem solve or tackle more difficult things later in life. It's about a depth of understanding.

Indeed, one characteristic of expertise is the ability to explain something in more than one way (Gardner, 1999).

Across grade levels, teachers in this study posed questions that invited multiple perspectives and more than one answer, including:

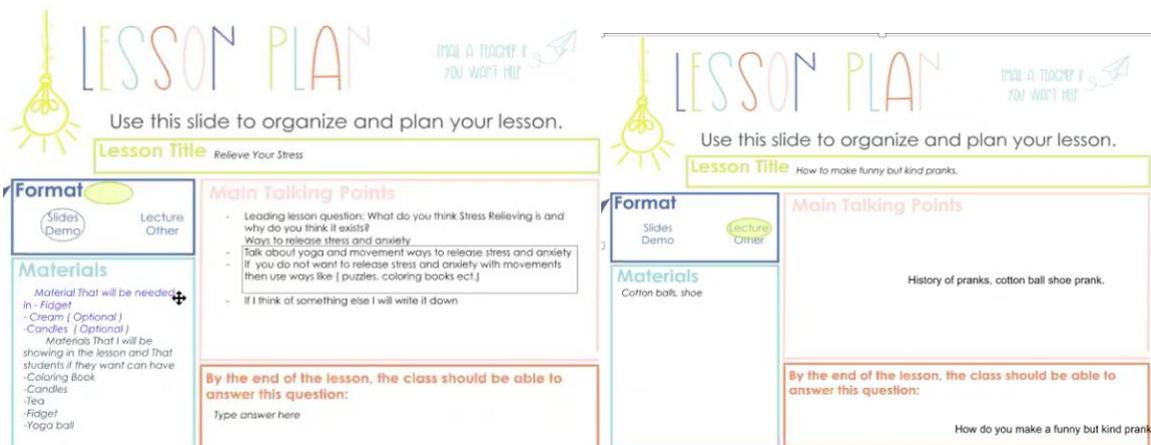
- What do you see, think, and wonder as you read this book?
- How could Joseph (a kindergarten classmate) show that it is cold outside in his writer’s workshop drawing?
- What would you put in your ideal world?
- What would your own island include?
- What are different strategies that we can use to solve the problem  $23 \times 38$ ?
- Why do we do math?

Across the curriculum, teachers provide multiple ways for students to engage, collaborate and follow their interests. For example, to address math learning goals, Cambridgeport teacher Suzie Krupienski challenged her second graders to create a game that would allow players to explore and practice specific math skills. Suzie gave the children the choice to decide what game to create as well as the learning goal of the game (Solis et. al., 2021).



Small groups creating math games

Within lessons teachers vary the type and level of support offered to students to meet their needs and preferences. When helping students craft an online presentation to their classmates, Christine Dowling from The Advent School created a planner. Some students elected to make detailed notes on the planner while others just jotted down a few ideas and talked through their presentations with Christine (Mardell, 2020).



Two uses of the planners

The more than one way approach was also evident in the creation of rules and norms and when solving community problems. When Codman Academy teachers were asked to start giving grades in their advisory classes<sup>7</sup>, 9<sup>th</sup> grade humanities teacher Sydney Chaffee responded to the push back from her students (“We don’t come to advisory to get a grade. We come to feel better and hang out.”) by suggesting they make a grading rubric together. While she had ideas about what could be on the rubric, Sydney explains that “I was totally open to what my students had to say, and we figured it out together.” Sydney’s flexibility allowed her to co-construct a solution with her students.

The celebration of diversity in perspectives, ideas, and people, and the belief that such diversity enriches educational communities, is central to more than one way. As Codman Academy school head Thabiti Brown explains, “If you have more perspectives, you have a better chance of coming up with the solution. Collective action gets stronger outcomes. More than one way allows for innovation.”

More than one way does not mean “anything goes.” All the classrooms we observed had rules, routines, and norms that provided predictability and clear expectations about behavior and learning. Moreover, teachers provided important guidance and instruction. The educators we worked with saw structure as providing boundaries and support for a strong learning community that allows for playful learning experiences to unfold.

More than one way can be contrasted to what we term “one wayism.” “One wayism” appears when there is one way to sit, to tell a good story, to solve a math problem, or when there is one answer to find and one way to learn. In these situations, there is also often just one way to teach. Scripted curricular guides have very specific language for teachers to use, with a premium placed on fidelity of implementation. In extreme, but not uncommon situations, school leaders expect to walk into separate classrooms of the same grade-level and find them on the same page in the curriculum. While one can debate the efficiency of such approaches to learning, one thing is certain: they do not promote playful learning.

While more than one way is an emergent finding from the data we collected, it resonates with other educational ideas: themes of multiplicity (e.g., Gardner’s Theory of Multiple Intelligences and the Hundred Languages of Children from the Reggio Emilia Approach), a commitment to social justice (e.g., Adichie’s idea of the danger of a single story), and educating children with special rights (Universal Design for Learning’s making knowledge accessible in different ways). This connection is captured by Jennifer Keys Adair (2020) when she wrote:

Learning does not happen in one natural way but in lots of ways. Each individual learns differently. People learn differently in different cultural communities, countries and contexts, depending on what is available, who is powerful, what the norms and values are, and how learning makes sense for different kinds of lives and circumstances.

It is not surprising, then, that the schools in our study foregrounded social justice and/or followed an inclusion model of teaching and learning.

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<sup>7</sup> Advisory classes focus on creating community and supporting learners’ social and emotional development.

We now turn to classroom examples that illustrate the more than one way approach to teaching and its connection to playful learning.

## More than one way to tell a story in kindergarten

Each day in Jodi Krous' class at the Eliot School, her three and four-year-old children engage in storytelling/story acting. Created by Vivian Paley (Paley, 1981; Cooper, 2009) and adapted and integrated into the Boston Public School early childhood curriculum (Boston Public Schools, n.d.), storytelling/story acting involves a child dictating a story to her teacher, which is then enacted by the whole class. The practice has multiple learning goals, including community building, helping young children express their ideas and feelings, and literacy development (Cooper, 2009; Mardell, 2013). Here we describe the storytelling portion of the practice that took place in Jodi's classroom one morning, illustrating the flexibility involved in the more than one way approach, and how this flexibility promotes playful learning.

According to the class schedule, on this Friday in March, three children are slated to tell stories. Jodi collects their stories during a 45-minute exploration time when the other children build with blocks, draw pictures, and act out scenarios in the dramatic play area. Cole is the first storyteller on the list. Jodi calls him over to the library. She is not surprised when he immediately announces that his story will be about a firefighter. Every day on the way to school Cole insists that his parents walk by the fire station near the school. After a few seconds of thought, Cole begins: "Once upon a time a little fireman was wandering in the woods." The story continues that, despite advice from his mother, who happens to be named Goldilocks,<sup>8</sup> the firefighter ventures far from home. Jodi works hard to keep up with Cole as he dictates his story, writing in the class' story journal. Nearing the bottom of the page, he announces the little fireman has found the house of the Three Bears.

Four-year-olds often tell chronological stories best described as, "and then, and then, and then stories." Developmentally, they are good at stringing together events, but bringing stories to a conclusion is not a strong suit (McCabe & Peterson, 1991). So, based on advice from Paley herself, Jodi generally limits stories to one page. However, in this case, Jodi realizes Cole's story would be truncated if it ended now, so she turns the page and continues taking dictation.

Cole explains that the fireman takes a nap in one of the bear's beds. Near the end of page two he tells that the bears have discovered that "someone has climbed the ladder to our bedroom." The dad bear tells the momma bear he is going to take a look. Realizing the story may be heading towards a satisfying end, Jodi again disregards the one-page rule and continues writing. Page three sees the bears discovering the fireman in their bed and him fleeing the bears' home. The end.

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<sup>8</sup> The previous day Jodi had read a version of *Goldilocks and the Three Bears*, a popular fairy tale (Elms, 1977), to the children.



Cole telling his story to Jodi

Jodi reads the story back to Cole. As the storyteller, he can select what role he would like to play when the class enacts the story (the rest of the roles will be assigned randomly by going around the circle of participants). Cole wants to be the momma bear.

Maddy is next on the list. Jodi calls her over from the dramatic play area to the meeting area to tell her story. Maddy is followed by Pat with whom she is playing. Jodi asks Maddy about Pat's presence. "Do you want her to listen? She might have some good ideas." Maddy agrees that Pat can stay and begins her story, "Once upon a time..." Jodi repeats each word Maddy says as she transcribes them into the story journal. Maddy continues, "There was a girl and it was her birthday." Pat suggests, "Maybe she got some presents" and Maddy adds, "She got cake and she got some presents."



Maddy (center) telling her story to Jodi with Pat listening

As Jodi writes, the girls watch the page closely. She completes a sentence, and Pat calls out with delight, "Look, a baby circle!" Jodi explains, "It's called a period. I put it there at the end of her thought. It sits on the line."

Maddy continues with a few more sentences. Jodi reads the story back to Maddy and asks her whom she'd like to be in the enactment. Maddy's answer: "The girl." Pat wants to be one of the friends. Jodi reminds the girls about the rule that only the author gets to pick a preassigned

role—a bump in this otherwise agreeable interaction. A solution is reached when Maddy suggests Pat be given co-authorship of the story.

Alice is the third storyteller on the day’s list. Historically, Alice has been reluctant to tell stories. However, she loves dogs and Jodi joins her in the writing area that has been stocked with dog themed books, markers, and paper. There, Alice is drawing pictures of dogs. Jodi asks Alice about her drawing and then, on post it notes, jots down what turns into a story.



Alice telling her story to Jodi

It is the tale of a dog’s mishaps in an ice cream shop—getting ice cream and then hot sauce spilled on it. Pretty funny content, and Alice and Jodi laugh and smile. The story continues with Alice and her friend Enlin picking the canine up and bringing it back to its home. One might expect a bath to follow, resolving the problem of a messy dog. Instead, the dog causes more mess, “getting grass all over.” Alice indicates the story is over. Jodi expresses appreciation about the additional mess, and she does not press Alice to resolve the problem, ignoring the common dictate that, “good stories have a beginning, middle and end.”<sup>9</sup> Jodi reads the story back and learns that Alice wants to play the dog in the enactment.

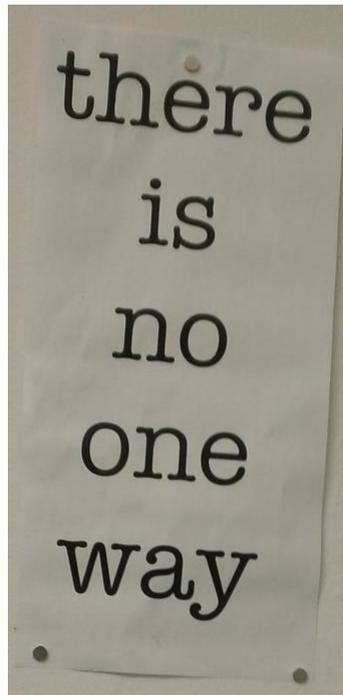
While young children enjoy telling stories, if the invitation to tell a story interrupts play or comes with stipulations about length, subject matter or structure, attempts to elicit stories can be met with resistance or even refusal. This is far from the case with Cole, Maddy and Alice. From the smiles on their faces, their body language, and the quality of their narratives, it is clear they are playful participants in storytelling. The flexibility Jodi demonstrates in her approach to storytelling, and likely previous positive experiences telling stories to and interacting with Jodi, can account for students’ playfulness. The result is playful learning: experiences that are empowering, meaningful, and joyful.

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<sup>9</sup> There are kindergarten classrooms in U.S. with signs that read “good stories have a beginning, middle and end”; where there is one way to tell a good story. However, not all good stories have a beginning, middle and ends in the sense that they present and resolve a problem. Research by Courtney Cazden (1988), Sarah Michaels (1991), Alyssia McCabe (2008) and Jaynthi Mistry (1993) among others demonstrate that narrative structure is a cultural construct. They have identified a storytelling style among African Americans that can be likened to jazz music, starting with a theme, riffing off the theme, and ending by returning to the theme. In Alice’s story a mess is made, things happen, and at the end more mess is made.

## More than one way to learn 7<sup>th</sup> grade algebra

Prominently posted in Liz Caffrey’s middle school classroom at Atrium School is a sign that reads “there is no one way.”

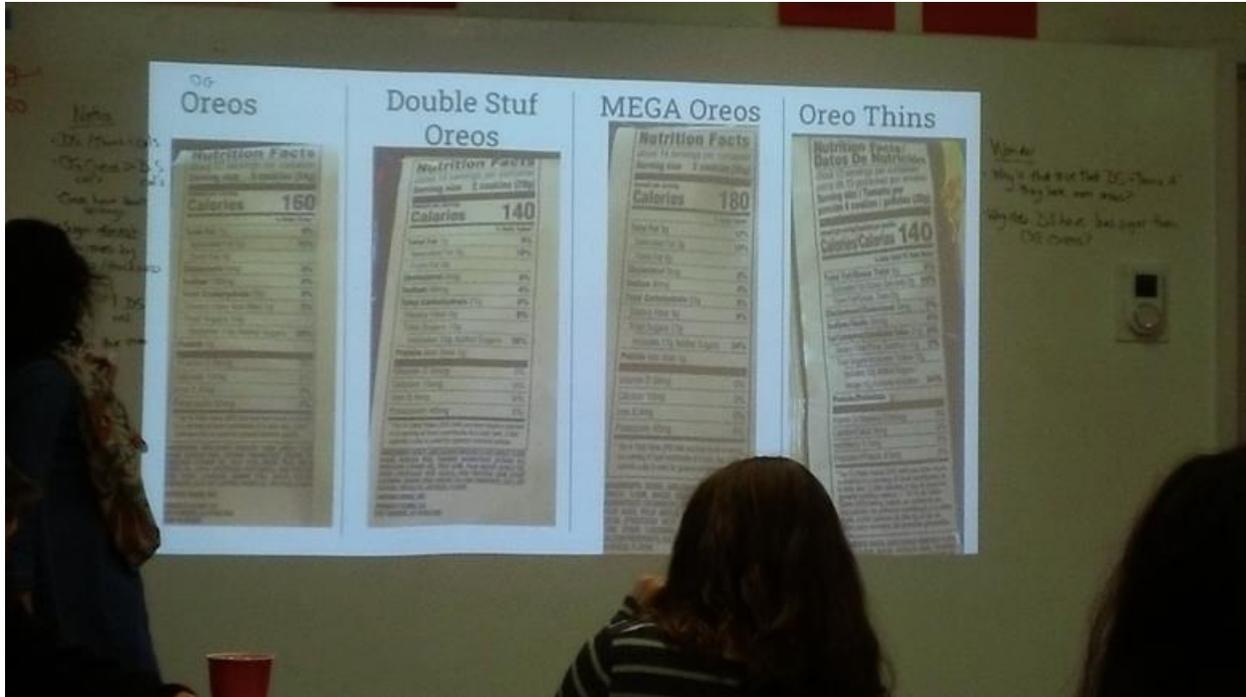


The sign is emblematic of the more than one way approach that Liz takes to structuring her middle school math lessons. An example is companion sessions Liz taught to her 7<sup>th</sup> grade students<sup>10</sup> to launch a unit on creating and solving algebraic equations. The sessions, involving Oreo cookies, provide an “anchor problem,” an example to refer to, for the unit.

The first session starts with Liz putting up the nutrition facts from packets of four types of Oreos—original, Double Stuf, MEGA Stuf and Oreo Thins—on the white board. She asks the whole group: “What do you notice and what do you wonder about the different lists?”

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<sup>10</sup> In the U.S., 7<sup>th</sup> graders are generally twelve and thirteen years old.



Examining and wondering about the nutrition facts of different types of Oreos

Students wonder:

- Why does Double Stuf have less sugar than originals?
- Is the cookie part bigger in Double Stuf and MEGA?
- What is the price of each type of cookie and does more sugar increase the price?

Liz then moves the wonderings to small groups. She invites her students to “lean in and share wonderings” with those at their tables. Along with the lists on the white board, each group has an assortment of the different kinds of Oreos. As the groups chat, Liz circulates among them.



Small group conversations

After a few minutes, Liz brings the class back together and asks about their small group wonderings. One group has a question about how the calories per cookie type varies. Another

wonders about the cream to cookie ratio in each type. Sarah shares, “I was looking at the Double Stuf versus original and the Double Stuf is only a tiny bit bigger, while the MEGA is what I’d expect the Double to be.”

Liz reviews the list of wonders she has written on the white board and asks: “What is the most mathematically interesting question that we can explore?” The class, following up on Sarah’s question, soon finds a consensus: Are Double Stuf Oreos really double?

“So how would you know?” Liz has the students return to their small groups to discuss what methods can be used to investigate this question. After a few minutes of conversation, groups share out ideas:

- weigh the cream and weigh wafer
- weigh the entire cookie and subtract the weight of wafer
- crumble the cookie and use measuring spoons (volume)
- measure the height of the cream
- measure the area of all parts of the cookie

Liz asks the class if they think each cookie will provide exactly the same results. There is a chorus of nos, and the realization that several cookies will need to be explored, averaging the results. Ruthie, who is very into the computer program Excel, suggests using a spreadsheet. Liz responds affectionately, “To each her own,” and notes there are also other ways to calculate averages.

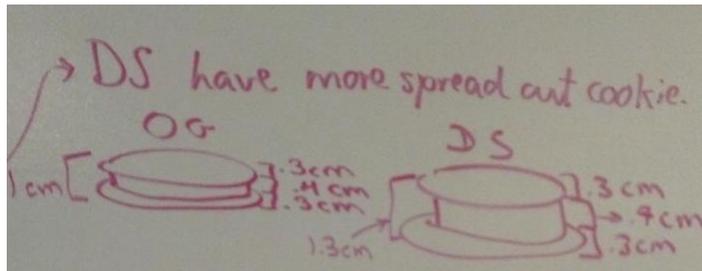
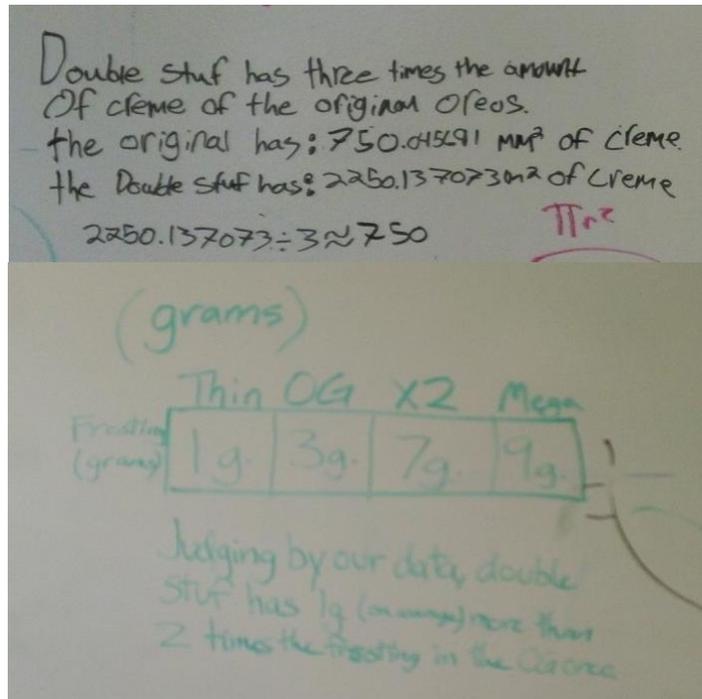
Liz invites each table group to select one of the measurement techniques forwarded. Students get the needed tools—scales, rulers, calculators and paper—and set to work.



Different measurement techniques

There is a buzz in the room as the groups discuss, measure, and occasionally joke among themselves and with Liz. By the end of the session progress has been made, but the research is not finished.

The next math period begins with groups completing their measurements. Each group then shares their findings on the board, representing their ideas in different ways: numerically, in chart form, and with an illustration.



Representing ideas numerically, in chart form, and with an illustration

After the class ends, students pack up their bags and about half of them leave the room. The other half chat with Liz, reminiscing about a 6<sup>th</sup> grade experience when they made smoothies to learn about ratios. “That was so much fun!” one exclaims.



A student joking with Liz

Smiles, laughter, joking, engagement, and a buzz of activity—not everyone’s associations with a middle school math class. Yet Liz has structured these lessons so that playfulness was activated for her seventh graders. Recognizing that what is playful for one is not playful for all, she provided choices in what question to investigate, and how to explore the question and represent one’s ideas. From the students’ reminiscences about 6<sup>th</sup> grade, this is not the first time math has been so enjoyable, and likely they come to math predisposed to learn playfully. Liz’s more than one way approach allowed her to co-construct the exploration of Oreos with her students. The result was a math class where learners discussed and debated, engaged in a meaningful activity, were interested and invested, collaborated, and experimented. In short, it was a classroom where playful learning thrived.

## More than one way and promoting playful learning in schools

How might the idea of more than one way help in efforts to promote playful learning in schools? On a classroom level, as teachers adopt practices and strategies to activate and cultivate playful mindsets among their learners, an approach to teaching that is flexible and spontaneous is important. The idea of more than one way may serve as a reminder to teachers to stay open to surprise and plan and look for multiple pathways to learning. In addition, administrators can support the creation of school environments where teachers take risks, try out ideas, and tinker with their practice by exhibiting flexibility and co-constructing school policies and routines. Given the importance of their role in the learning culture of schools, taking what could be termed a more than one way approach to leadership may be a useful frame for school leaders.

The utility of more than one way for teachers and school leaders is dependent on two questions: First, does the concept hold up outside of the schools in this study? It is possible that the idea of more than one way may clash with values and practices in some contexts. In settings with a greater value on respect for authority, or with an educational system where historically the focus has been on learning the right answers, more than one way may provoke resistance. On the other hand, the message of more than one way may be of greater importance in schools where practices are very prescribed. Here, a call for more than one way might provide the space for playful learning to emerge.

The second question is, do educators interested in promoting playful learning find these four words—more than one way—evocative and meaningful? Does more than one way provide a simple yet powerful message about an approach to education?

We know it does for some. Asked about the idea of more than one way, many of the educators in this study responded enthusiastically, explaining that it is an idea that captures important aspects of teaching needed to promote playful learning. Josiah Quincy kindergarten teacher Kelly Garcelon explained her understanding of more than one way when she wrote:

If we don’t believe there is more than one way for playful learning (or any learning) to occur then I think that we are expecting all students to have the same learning needs, start with the same backgrounds and skills, and have the same interests. All things that we know are not true. We would also be expecting all teachers to have the same styles,

experiences, and methods. More than one way is a perfect representation of how playful learning and teaching should be because it includes everyone and includes the variety of ways that we can meet and reach kids where they are, and infuse playfulness and learning into their lives. 'More than one way' is a statement of inclusiveness and acceptance. I also am tempted to throw the word 'love' in there as well, because I think that when you show students that there is more than one way to learn or do something or when you help a student find a new way through a challenge it makes them feel included, accepted, and often loved.

Kelly's comments strengthen our desire to explore the role of more than one way beyond the six schools in this study. We would like to see how teachers and school leaders take this idea and make it their own in planning and implementing playful learning approaches in their schools.

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## Appendix: The Pedagogy of Play USA research methods

Six schools in the greater Boston area in Massachusetts, USA were selected to participate in the project. The criteria for schools included:

- a range of grade levels (from pre-kindergarten to 12th grade),
- a healthy and predictable school culture as indicated by district administrators and research colleagues,
- strong, supportive school leadership, and,
- indicated interest in incorporating playful learning into their teaching practices.

The schools differed in terms of resources and racial, linguistic, and socioeconomic backgrounds of the students (see Table 1). Three of the schools were district public schools, one was a public charter school, and two were independent schools. They were not chosen in an attempt to find representative schools regarding pedagogical practices. Rather, they were selected because existing practices offered the opportunities to observe learning through play in a range of classroom settings.

Table 1. Participating School Demographics

<b>School</b>	<b>Type</b>	<b>Student Population</b>	<b>Grade Levels</b>	<b>% Economically Disadvantaged</b>	<b>% Students of Color</b>
Cambridgeport School	District	325	Jr. K-5	21.5%	44.1%
Eliot School	District	722	K1-8	17.6 %	38.7%
Josiah Quincy Elementary	District	795	K0-5	50.7%	88.8%
Codman Academy	Charter	345	K1-12	61.7%	99%
The Advent School	Independent	200	Pre-K-6	Not Reported	34%
Atrium School	Independent	125	Pre-K-8	Not Reported	25%

A total of 22 kindergarten through ninth grade teachers, including four pairs of co-teachers, participated in the research. They were identified based on their use of promising playful practices, openness to reflecting on their teaching, and interest in participating in the project. At least one school leader at each school also participated in the research (with two administrators at one school also participating).

Data collection began in October of 2019 and continued through the remainder of the academic year. We conducted observations in classrooms, interviews with teachers, a focus group with students, and interviews with school leaders. Data collection and interactions with schools and educators were adapted in March of 2020 to respond to schools' transition to remote learning during the global outbreak of COVID-19.

During observations, researchers looked for times in the classroom when playful learning seemed to be occurring. They focused on instances in which learning activities and interactions responded to learners' agency, interest, and/or positive affect, aspects identified from researchers' own experiences in the U.S. educational system, prior Pedagogy of Play research, and relevant literature. During these observations, the researchers engaged in informal conversations with teachers and learners about the lessons (e.g., How did the lesson go? What did you like or not like about the lesson? How did the lesson make you feel?).

Researchers conducted a series of three semi-structured interviews with teachers and two interviews with school leaders. They were asked about the terms and phrases that they use to describe playful learning practices and to nominate playful moments from the perspective of a teacher. In the final interview they were asked about the concept of more than one way.

We employed open coding to identify terms and themes related to playful learning that emerged in observation memos and interviews. We found a through-line in the way playful learning was described and enacted in classrooms. As we observed and reviewed the data, had conversations with our colleagues, and considered them in the context of US educational ideas and values, a construct that we believe is important to playful learning emerged: *more than one way*. We found playful learning is more likely to occur when educators have the mindset that there is more than one way.

For a more extensive explanation of schools involved and methods used in the research see the companion working paper *Empowering, Meaningful, and Joyful: Playful Learning in Six Schools in the United States* (Solis et. al, 2021).