Ruth Byrne - Play to Learn, Learn to Lead Transcript

- Hi, I'm Ruth Byrne, an art educator and math education enthusiast from New Jersey. I'm also a maniac for blocks, specifically Froebel's Gifts. The blocks and works that composed the very first kindergartens of the 19th century. So yes, I am kind of obsessed with using blocks in the art room, and I love sharing the joys of hands on creative construction with fellow educators, such as yourselves, but it isn't as easy as bringing all your scrap wood to your classroom. Connecting naturally engaging play with blocks to formal investigations of math, art, and literacy concepts, take some serious work. Structuring lessons that inspire students within a framework without being prescriptive is an art in and of itself. I love to take you through how you can build lessons that encourage creativity and discovery while staying accountable to the skills you're targeting. I usually begin with a formula for my unit structure, like a visible thinking strategy from Harvard's Project Zero. If you've used visible thinking in your classroom before, you know it is a powerful way to model and practice systematic thinking with students. My go-to in the art room when we're the looking at new artwork is see-think-wonder, which prompts students to break apart what's playing to the eye, what's happening in our heads and what questions arise from the artwork we are viewing. Have you tried this before with the students? It's amazing what the kids discover when they slow down to look and think.

- [Steve] Like, because there's like a floor, looks like a rubber band.

- A floor of rubber band.

- [Steve] And there's top ones too. Like, yeah, looks like a mirror maze.

- Like a mirror maze. I love the way you think Steve. He says it's making him think of a mirror maze, like a fun house mirrors, maybe.

- [Steve] Yeah, the idea of me to like the go around, like not get like heard because then you run, you're gonna get bumped into a mirror.

- Bump into a mirror. But how do visible thinking strategies relate to building your lesson? Well, when I'm constructing an intentionally cross-curricular or expansive unit, I use see-think-wonder or see-wonder-connect, not only as a strategy exercise with the kids, but as a framework for the lesson itself. If you're already catching a spark with the Institute for Arts Integration, you'll see how easily thinking strategies blend with the Institute's CATCH literacy concept. That highlights context, arts, themes creating and hard words. There are so many thinking strategies and creative processes outlines out there. Find one that works for your classroom and stick with it. Use it as a lens to process and integrate new teaching ideas. So my chosen thinking strategy, see-wonder-connect will guide the progression of learning activities and project goals. This will keep students and let's be honest, me on track during expansive explorations. It also gives

students a formula for success when they want to explore something on their own. Let's see how this works in practice. So here we'll build a lesson that builds towards second and third grade math standards. Standards for evenly dividing rectangles, measuring and calculating area and perimeter, and using a raise as a foundation for multiplication. We'll also address the art standards for investigating the world and representing constructed and natural environments. Now that's a whole mouthful, so you can see why we need that framework. I want students to see how space can be divided and measured and compared to itself. I want students to wonder at the social and aesthetic purpose, these divisions can serve. I want students to connect measurement and proportions to building and community. So it starts with the very simple see. The lesson starts with students seeing the most basic components of measured space. In our case cubes, we investigate the properties as a group, tracing our fingers around the edges, measuring it, comparing it to other objects like rectangular prisms or triangular prisms, and then building to have students use all three of those forms to build and play. This time lets kids use their own hands and minds to think through the possibilities of these forms. This deliberately slow and low stakes investigation gives students a common vocabulary to draw from and a very stable starting point to build from. The next stage is wonder. We wanna spark a little wonder in the students by putting this playtime into an arts context. So we get our sketchbooks and do our thinking routine with an art example. We use Julia Morgan to investigate structural stability or Federico Babina for incorporating personality into design or Paul Cliff for dividing space simply into parts. In this example, we'll view Shopko buildings, a Polish Christmas tradition of making highly decorative model buildings as nativities that celebrate the mix of Gothic, Baroque and Renaissance architecture in Krakow. Kids are obviously fascinated by the colors and the ornament. They quickly notice qualities like symmetry and balance and height, and they start to wonder about the purpose the building serves and the people who make the buildings. Once we spent time in conversation with these incredible sculptures, students have architectural terms on the tips of their tongues. So when they return to their blocks or sketch ideas in their notebooks, you start to hear the most amazing things like I'm drawing an arch above this window, or I want three towers, how do I make columns? Should my dome be a circle or a semi-circle? I need a balustrade on my terrace. Kind of kidding on that last one, but you'll be impressed with what they come up with. Now, when we need to connect, we want to connect either to other areas of study, hobbies or interests. Now we'll use a prompt to direct building, like start with an array of six by six rectangular prisms, try to build something taller than it is wide and is symmetrical. I'll take an art sided approach to dividing an array into even groups. Posing a problem to solve with art and math skills together connects what we saw in the artwork with other subjects. It gives students a theme to create around. After a block brainstorming session like this, I'll ask them to create a final three dimensional construction if I wanna pit them against gravity or two dimensional construction to increase possibilities and create an artwork they can keep. Students can measure with rulers or create equal pieces by dividing papers in half and half again for their collage. With consistent use of visible thinking, students can identify the stage of thinking they want to revisit, making them aware of the recursive process of thinking creatively. For example, pausing to think during the building process or when we're preparing

presentations, provides opportunities to wonder more about social questions that come up while we're connecting our math measuring skills to design. Asking what effects do heightened symmetry have on a building and its surroundings. What effects do they have on their occupants or their purpose can lead students to frame their own problems? Where will my plants get sun? How can people get around inside the building? How will human behaviors change inside the building? What happens to the building next door when we build our building? This opens the door to further math and literature connections. I'm thinking about students measuring light angles and cast shadows, or perhaps enjoying a few sideways stories from wayside school, or acting out social stories about how people in the building interact. I'm sure your connect synapses are snapping too, even if it's just because the neighbor's new shed blocks your view. Let these connections run wild. In a classroom, the more connections there are in the web of learning, the more paths that learning has to become permanent. Now, how can we remain accountable to those original goals for measurement, array, proportions, aesthetic function, and all that? Well, as a way of wrapping up all of our connections in a nice little bow, we'll present our work in a museum. This is a great moment for kids to record and share all the observations they made during their investigations. As part of their presentation, students can calculate the area of the face of their construction using those square inch cubes or using rulers. They can record the heightened width of their building on their museum display to show that they've certified the prompt. I like to let them make revisions as they check their measurements because revising and refining is such a huge part of learning in the arts. Find out what's at the heart of their work, ask them to write a statement about their building's purpose, it's features or it's foibles. These closing activities solidify a lasting learning experience and provide convenient documentation of learning. Say, you don't have blocks or you want to get at perimeter and area in a more complex way, try this lesson format with laying staffs. Popsicle sticks by any other name would taste as sweet. Take the time to really see the sticks with the students, hold them vertically, horizontally, diagonally, and add a staff and navigate through the basic angles and parallel lines. Firming up these concepts with the stats in their hands will give students a common visual vocabulary to draw from and create that stable foundation. This first encounter is so important. Give them time to level up from just one stick to two, from two to three, from three to six, from six to eight, slowly and methodically progressing towards unlimited sticks helps build resilience. By pushing students to think through all the possible configurations of just limited resources, they'll know how to make the most of unlimited resources. Students will immediately start to use their sticks in an art context. They hardly need examples to inspire them, but any of those previous artists or architects would help spark students towards a theme. Viewing art by Sarah Morris. Like her Reflecting Pool can connect lines to urban space, which can set you up for collaborative connections to community design. So take a look. What do you see? What do you think? What do you wonder? How could you now connect to student interests? The interests they reveal through their laying staff drawings like the robots, city maps, trains or communities. What problems could you use as a prompt? I'd like to challenge students to make a network of roads, totaling 20 feet in length that connect individual structures with equal areas or perimeters.

- [Steve] This is the Memorial that has lots of cool stuff in it. Like just like a lot of famous people like a statues park . And then we go on to-

- [Student] Then we have the Memorial store for-

- [Steve] This is one of my stuff.

- [Student] This is road all the way to here. So this is the famous lake.

- [Steve] One single penny in here and your wish will come true.

- [Student] And last but not least, if you dive in it you might become prettier.

- After freely designing roadmaps with sticks, students will need to find the perimeter of plots of land and measure and record how long the roads are. Structures could be designed with sticks. They could be recorded on paper with rulers, you could measure them out with cubes. They could be painted or collaged, when setting up their work for presentations, students can compare total area of their town with the area covered by roads or buildings and revised to adjust their ratio for more or less open space. Get to the heart of their work, by having teams craft a statement, describing the town values and the role that buildings will play in supporting their community. Find some great books like Madlenka by Peter Sis to share what a wonder it can be to live together. They can wrap up their connections with a neighborhood or historic tour or by listing and selling neighborhood properties to other teams. Maybe it's silly to keep using the same blocks and sticks with students year after year, but maybe it's not, maybe by using consistent manipulatives in progressively more complex challenges, students are building towards a secure grasp of the little parts that make up the holes we interact with every day and with a consistent, visible thinking strategy guiding us to complex thoughts and connections, students develop their own framework for understanding a world. For me, finding these blocks and sticks and pairing them with visible thinking strategies was like finding the missing puzzle piece of an engaging education suddenly with these little foundational pieces subjects connect so naturally it's as though they were never cut apart in the first place and the possibilities just keep building. I wonder what you'll make of them in your classroom. If you're interested in learning more about Froebel's Gifts in your classroom, or learning more about visible thinking strategies, visit the links and the handout. If you'd like to learn more about artists that connect with the gifts, visit my Instagram or Twitter page and follow along with our journey with Froebel's Gifts.