- I'll be speaking with you today about the power of using open ended materials called loose parts with our students during play and creative exploration. I have been educator for over 20 years, teaching pre-school aged children, up through the middle school grades. In my graduate studies in educational leadership, I have developed customized professional development tool kits for pre-kindergarten, teachers, elementary and middle school educators as well as specialist teachers and teaching artists. In my current role, I coach teachers throughout the state of New Hampshire, as they design and implement more child centered creative experiences in their classrooms and teach students through play-based learning. I encourage educators to increase their use of open-ended materials in academic and artistic learning opportunities that they design. I'd like you to imagine that you have been invited to a group event, whether it's a party for socializing with your friends or a staff meeting with colleagues, what is it that you bring to these groups? Now, imagine that suddenly something has come up and you're not able to make it to this event. Look beyond this video and consider your setting, whether you're in a study or sitting at the dining room table, maybe you're in the kitchen, look around your environment, look carefully at the objects you see. If you're like me and you have a junk drawer, open it up and rifle through. Look at those objects and think, if you were invited to a group event and you weren't able to attend, which object would you choose to send in place of you? This theater based strategy is a great icebreaker activity for a staff meeting or for students when you're getting to know them. Layout a rug or set up a table in a central location in the classroom and give students time to look over the variety of materials that you have chosen displayed for them. Ask students to pick an object that represents themselves and explain why. Or students can choose an object that represents a character in a story. You can extend this strategy by asking students to write an essay on their chosen metaphor. I begin my essay with, "I'm Jennifer Berube and I am a spatula "because I like to flip people's thinking about education." I provide a link to this activity on my handout. Another theater based strategy to consider is the concept of a foil. In theater a foil is a character who contrasts another character. For example, the evil character in a story is the foil to the good. Sometimes it's easier to identify our character traits by naming what we are not like. Students can extend the object metaphor by creating a tin foil sculpture of an object that represents their opposite. This is an activity that may be done with students of all ages. For my foil metaphor, I would choose the rose. Although I am lovely and beautiful, I am not delicate or easily broken. These strategies are great opportunities to integrate theater and visual art within a social, emotional learning exercise or a language arts person. I began this session with them because they help us look at materials in different ways and assign different meanings to objects. Children are natural abstract artists and dramatists. Open-ended materials allow students freedom to imagine new meanings and assign new purposes to objects, transforming them into multiple uses for their artistic creations. Simon Nickelson, the architect who coined the phrase "loose parts" said, "In any environment, both the degree of inventiveness "and creativity and the possibility of discovery "are directly proportional "to the number of variables in it." Experimenting and inventing with loose parts leaves a foundation for learning through science,

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technology, engineering, the arts and math. Open-ended materials, environments and experiences encourage problem solving and explorations that occur naturally, as opposed to be predetermined scripted tasks. loose parts paved the way for critical thinking, communication and collaboration. I'd like to share some examples of how I've used open ended materials in my third grade classroom. At the beginning of each year, we learned our science teamwork action words and conducted a series of activities to bring our action words to life. These were communication, collaboration, compromise and critical thinking. So, we met a group of Harrys who were so little they had trouble seeing all the happenings in the classroom. Students were tasked with creating perches for the Harrys so they could sit up high and have a better view. Science teams had a few minutes to look over and discuss possible uses for the materials, these were cupcake liners, limited amounts of tape, index cards, Popsicle sticks and pipe cleaners. Students took a few more minutes to collaborate and sketch a design of there perch before they got to work on building. Once the perches were created, we went on a gallery walk around the classroom and each team presented their perch and received questions and feedback from their classmates. We took on a similar challenge at the end of the year when we were leaving the Harrys in the classroom for the summer, we wouldn't want them to be bored. So we designed ways for the Harrys to stay entertained and occupied while we were away from school. With the same materials or similar to the ones they used at the beginning of the year, children created playgrounds, swing sets, water parks and a beach house for their Harrys. In my third grade classroom, Open Studio was a cherished part of our daily routine. Students were expected to make a creative choice and persist with it. And they had free reign of all the materials in the classroom. Earlier in the year I had read "The Day the Crayons Quit" by Drew Daywalt. It's the story of crayons who are frustrated by the way a child is using them and they decide to leave. My students made their own crayons from clay, creating a story and a label to go with them. Each crayon quit and traveled to some place far from the child who once owned them. A postcard from the crayon told where it had settled, a problem it encountered there and how it planned to live in retirement. One day at Open Studio, I asked a student about her use of a shoe box and empty juice boxes. She said, "I'm making a retirement home for my crayon." Other students caught on and within weeks we had a retirement community for our crayons, all made from loose parts and recyclable materials. My fourth grade science class who at the time had recently learnt to complete circuits and light light bulbs installed the lighting to the crayons' homes. In a week long summer steam camp middle school students delved into studies of energy transfer, simple machines and chain reactions. Through their use of open ended materials they designed and developed Rube Goldberg machines. Given the importance of creativity and innovation for the future, it's important to ensure that the arts provide students opportunities to use their knowledge and skills in ways that are practical and applicable to the real world at all ages. Every child isn't inclined to grow up to be a scientist, an engineer or a designer, but it is important that every child grows up knowing how to think like one. Providing loose parts in our caches of classrooms materials encourages and naturalizes this kind of creative thinking and critical experimenting.

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Loose parts are tools for expression, with them children say, "We are resourceful, "we're powerful, we are capable of creating." Open Studio and choice times are optimal times to facilitate and observe student directed learning. Do you remember fidget spinners? They were supposed to be used as tools for learning but they weren't used that way in my class room, in fact, they became a real problem at my school. Kids were stealing them, trading them, selling them, eventually our director banned fidget spinners on the very day that fidget spinners were no longer allowed in school one of my students took the issue into his own hands. At Open Studio, Rice took out all of the gears, all of the Legos and the connects and he got to work building fidget spinners. Soon a group of children surrounded Brice who was thrilled to lead them in constructing different kinds of fidget toys. This went for a course of several days and we noticed that some spinners spun in place and some traveled distances across the floor. We considered the materials and the design of the spinners and what caused them to move differently. I used guiding questions to lead students' thinking towards learning targets in our forces and motions science unit as well standards in math and literacy and social emotional learning. Rice's initiative encouraged other students to be innovative and tackle other problems by inventing solutions. This 3D model of the Nashua River was made by covering recyclable materials with paper mache and paint. Students use loose parts to represent the environment they had observed around the river. My school completed a collaborative arts project for students from kindergarten to fourth grade. We asked families and our school community to save caps to contribute to a mosaic project. Multi-age groups worked together to design and build this landscape mosaic. Through this project students developed perspective and collaborative skills and they learned about sustainability and caring for our environment. Consider the setting in which you work with children, what specific elements come to mind when you think of the learning environment where you encourage your students to express themselves creatively through play and the arts. According to the National Association for the Education of Young Children, the physical learning environment reflects the goals, values and expectations of the program that takes place there. The design of the classroom sets the atmosphere for the types of invitations, explorations and interactions that will occur. Think about how you organize and present materials to your students. Do these materials have potential for reuse in multiple ways? Do you present materials in a way that promotes your students' feelings of independence? Are they arranged in a way that offers students opportunities for self selection in their growing ability to direct their own experiences? The arts the ultimate tool for helping children develop socially and emotionally. Through self expression children master skills such as managing anxiety and frustration, normal developmental conflicts as well as unfamiliar concepts and overwhelming experiences. Learning different ways to repurpose materials develops children's awareness of others' perceptions. Observing others' interpretations of material's purpose encourages children's awareness and acceptance of others' ideas, critical thinking and problem solving with classmates. Critique is a very important tool which is developed in conjunction with communication and collaboration skills. Students at every grade level have the ability to ask

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each other questions about their choices and creations. Sharing interpretations of artwork they analyze, features they observe and the conclusions they draw from peers' representations children learn how to accept feedback from peers and provide them with constructive criticism. By learning critique, students develop the abilities to negotiate and explain their own needs to discern what others need and to view things from others' perspectives, reaching mutually beneficial conclusions. I believe that working with open ended materials helps students learn that there are many perspectives other than their own and many ways to approach and solve problems. To demonstrate, I would like to offer you one of my favorite activities, the squiggle story. To create a squiggle story you will need a blank sheet of paper, a ruler or straight edge and a pencil. First, fold your paper in half, use your straight edge to make lines under the fold down to the bottom of the paper. A squiggle story begins with a simple line like the one you see on your screen now. Copy this line onto the top of your drawing paper. This squiggly line is the foundation for a quick sketch you'll draw. What will you turn your squiggle into? Be creative, what whole can this line serve as part of? When you're finished, write a story about your picture. When I shared this activity with children in a classroom and with teachers at professional development presentations, most are amazed at how a simple squiggle can become so many different things. It's fun for people to compare likes and differences in their drawings and their short stories. Some works are fiction and others are non-fiction, some are serious, some biographical and some are cartoonish and silly. Squiggle stories are a great strategy to encourage students to appreciate others' perspectives, acknowledge that there is more than one way to solve a problem and find multiple meanings and purposes in things. A way to extend this activity is to give student partners a piece of string or yarn and to trace it's squiggle and create a story and a drawing for it together. The squiggle story integrates the visual art standards of creating, responding and connecting, with the English language art standards of expressive writing, speaking and listening. The squiggle exemplifies the power of a loose part and its potential to become a tool for expression and connection with others. It is our responsibility, as educators, to inspire students to explore and to persevere by setting the stage for their improvisation and by remaining their guides on the side in a learning environment that promotes self expression and social interaction. Loris Malaguzzi, founder of the Reggio Emilia Approach, spoke of the classroom as a teacher that speaks to students who learn there. The learning environment and the materials you present gives messages to your students. Take a moment to look over the notes you jotted down earlier, what message do you want your learning environment to share with your students? A class room that provides open ended materials to students tells children that they are welcome to create. Providing students the opportunity to identify uses for different open ended materials tells them that their creative ideas are valued, that their differences are accepted and that their co-ownership is celebrated within the classroom. The wider the range of possibilities we offer children, the more intense will be their motivations, and the richer their experiences. I created a handout for this session that includes links to the strategies I shared. The first is the object metaphor then the squiggle stories. The handout also provides a list of loose parts materials and a link to a webpage that

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will show locations of reusable resource centers for educators and artists. These centers typically have all sorts of recyclable, reusable and surplus materials available. You can fill a reusable grocery bag for about \$10. The reusable resource center closest to me almost always has phone pieces, tubes, cardboard, yarn, papers, fabrics, pretty much anything you can imagine, woods, , leather. It's also an amazing resource for sharing ideas and getting inspired. Thank you. And happy creating.