



Transcript for the [video](#):
TIMPANI Toy Study 2016

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Girl: Just let me set the table up.

Jeffrey Trawick-Smith, Endowed Chair of Early Childhood Education: Play influences nearly everything that's important in child development, and toys have great influence on the quality of children's play.

Girl: Be very careful not to break these chairs, cuz they're made of glass.

Jeffrey Trawick-Smith: But toys are rarely studied.

2016 TIMPANI Toy Study Results (0:37)

Julia DeLapp, Director, Center for Early Childhood Education: So every year, our center conducts the TIMPANI Toy Study in order to investigate how different toys affect play quality in natural preschool settings.

Jeffrey Trawick-Smith: The purpose of this study is to guide teachers, and perhaps parents, in selecting toys that really will have a positive impact on their children's development. It is conducted by undergraduate student researchers under the guidance of faculty.

Leah Slawinowski, Undergraduate Student Researcher: We had ten different toys that were selected by teachers and professors, and then they were placed in the classrooms, and we would record them for thirty minutes on each day. And then all ten toys were rotated throughout the classrooms.

Rachel Borden, Undergraduate Student Researcher: And after that we went and used the coding instrument to code the footage and evaluate the effectiveness of the toys.

Leah Slawinowski: Every five minutes we would pause it and then score the toy on our eleven criteria.

Jeffrey Trawick-Smith: So after students have coded children's use of each toy, we do a statistical analysis, and we determine the impact of each of these toys on children's thinking

and learning, on their creativity and imagination, their social interaction, and their verbalization.

Julia DeLapp: And we're able to use that data to look at whether or not there are big differences in play quality across demographic groups.

Category #1: Verbalization (2:03)

Jeffrey Trawick-Smith: One criterion we used in assessing these toys was Verbalization.

Leah Slawinowski: Are the kids talking when using the toy? And are they having conversations with other peers?

Rachel Borden: If they're having reciprocal conversations; if they're just talking to themselves; if they're singing along with the toy.

Boy: W, X, Y, Z.

Jeffrey Trawick-Smith: The toy that scored the highest on Verbalization was Kinetic Sand.

Leah Slawinowski: It looks like regular sand, but when you touch it, you can kind of mold it into different shapes. It's almost like playing with wet sand on the beach.

Rachel Borden: It's more of a solid, and then sometimes it turns into this liquid form.

Boy: It's falling!

Rachel Borden: It was really interesting to see the children play with it, because a lot of them probably have never seen this type of sand.

Julia DeLapp: And one of the interesting things is that we observed higher quality play when girls were playing with it than boys.

Girl: He's gonna get trapped.

Leah Slawinowski: The kids really liked, I think, the feeling of it and the fact that they could build with it.

Rachel Borden: That kind of helped them, kind of talk and communicate with each other.

Boy 1: Are you breaking the ball?

Boy 2: No the monster is breaking, because this is the lava, the green lava.

Julia DeLapp: We saw that children naturally went into the classroom and found small manipulatives that they wanted to bring back and play with in the sand. So they found little animals and little people and they'd incorporate that into their play, and then they would have conversations with their peers about what those objects were doing in the sand.

Boy 1: It needs to eat.

Boy 2: Yum, yum, yum, yum, yum.

Boy 1: The bear is eating.

Category #2: Thinking and Learning (3:50)

Jeffrey Trawick-Smith: Another criterion that we use as we're evaluating toys is the degree to which it inspires thinking and learning.

Rachel Borden: Whether the child was really engaged in a serious thought process with a toy.

Boy 1: And I'm going to put this part right here.

Boy 2: Got it.

Leah Slawinowski: We were looking for instances of children when you can almost look at a child and see the gears are turning in their head.

Rachel Borden: If a piece wasn't fitting together, "What can I do to solve this issue?" With another toy it was balancing with the plane. So figuring out, "Okay, I need to add another block over here to balance this out."

Boy: I put two on this side, and two on this side. Ta da! I balanced it; I balanced it!

Jeffrey Trawick-Smith: The toy that scored the highest on thinking and learning was the Plus Plus set.

Leah Slawinowski: It's a construction building toy, and it just kind of looks like two pluses together.

Rachel Borden: You could make a flat surface—more of like a puzzle—or make something that was more three dimensional, more like a sculpture.

Girl: Two. For two bees. This one goes right here. This one goes right there. These are flower trees. One of them has a beehive in it.

Julia DeLapp: With the PlusPlus, we saw high-quality play with both boys and girls, and with children of different ethnic backgrounds.

Rachel Borden: I think it scored so highly for this category because the children were able to really discover how they can manipulate this toy to construct what they want.

Boy: He moves like a real dog. See? He looks down and up.

Rachel Borden: So there was a lot of decision making, a lot of thinking on how this toy works, how they can create what they really wanted out of it.

Leah Slawinowski: They had to think about what they were going to make with it, where they were going to take their play next.

Boy: I made a long railroad; look!

Leah Slawinowski: One little boy made a railroad track, and then he made a train and was driving his train on the track.

Category #3: Creativity and Imagination (5:56)

Jeffrey Trawick-Smith: We also evaluate toys on the degree to which they inspire creativity and imagination.

Rachel Borden: We were basically looking to see if children were creating these out-of-the-box ways to play with a toy.

Boy 1: I'm making a clown.

Boy 2: I'm making a clown, too, with, that, and he's on a wheel!

Leah Slawinowski: If their play with the toy leads to an elaborate dramatic play or anything like that.

Girl: This is the dad.

Claudia: Oh my goodness, you made a whole family.

Rachel Borden: So are they just using the blocks and just putting them together? Or are they creating something unique; are they creating a space ship? So we were really looking to see if they were using their imagination, transforming the toy into something incredible.

Girl: It's a rocket ship! (sound effects)

Jeffrey Trawick-Smith: The Plus Plus set scored highest on Creativity and Imagination.

Girl: They're ready to take off! They're ready to take off to Mars!

Jeffrey Trawick-Smith: So there was another toy that scored almost as high on creativity and imagination, and that was a toy Cookie Set.

Boy 1: What do you want, Jasper?

Boy 2: Chocolate.

Boy 3: Chocolate. I got chocolate chip!

Leah Slawinowski: It comes with a baking sheet, a knife and a spatula, and then a cookie tin.

Rachel Borden: There were the actual plain cookies, and then there were also the frosting and sprinkles that could be placed on top of the cookie.

Jeffrey Trawick-Smith: The Cookie Set was one of the more popular toys that children chose to play with.

Boy and girl (singing): We're gonna make some cookies all day long.

Julia DeLapp: We saw a lot of imaginative play with the cookie set.

Boy: We're having a little snack until we go to Chuck E. Cheese, and we're making cookies for your birthday at Chuck E. Cheese's.

Julia DeLapp: The cookie set was actually the second highest-scoring toy across all four categories, so we also saw a lot of social play and verbalization when children were playing with it.

Boy: It's done.

Girl (singing): It's done; it's done; it's done!

Category #4: Social Interaction (8:14)

Jeffrey Trawick-Smith: We examine each toy's effect on children's social interaction.

Leah Slawinowski: Are the kids playing with a toy independently? Are they playing with the toy but it's more of a parallel play? Or are they at the associative cooperative level where they're interacting with each other and playing together?

Girl 1: Do you want to make a house?

Girl 2: Yeah, but if we make a moving house it would go all over, upside down, and everywhere!

Rachel Borden: If they're playing together and talking about what they're doing, how they're going to do it; or if they're, "Hey let's work together; let's build this!"

Girl 2: And make a big house so we can fit in!

Girl 1: Yeah. And make a big door, too.

Jeffrey Trawick-Smith: The highest scoring toy for social interaction was a toy Picnic Set.

Boy: Just in case somebody PRETEND wants to come over here.

Rachel Borden: There was a picnic blanket, and there were different cups and utensils, and it was all put in this cute little picnic basket and the children could take all these things out and have their own picnic.

Boy: Ok, we have to get everything right here on this blanket.

Julia DeLapp: The picnic set was another toy where children would go find things in the classroom and bring them back and incorporate into their play. So they would find toy food and toy bottles of milk, and then they would come back and incorporate that into very social play.

Girl: I have a sandwich! I'm gonna put that on my plate.

Leah Slawinowski: We definitely saw a lot of cooperation and playing together with this toy. With a picnic set you almost need like a partner to play with. Other kids would come in, and they would all want to go on a picnic together.

Boy 1: Set the table!

Boy 2: We have to set the table.

Rachel Borden: They had put their picnic blanket on the ground, with all the cups set up and the utensils.

Girl: This is for the baby; this is for the dad.

Rachel Borden: They'd have their own tea party.

Julia DeLapp: Interestingly, the picnic set was not played with very frequently. It was actually the second least popular toy in terms of the total number of minutes that we observed children playing with it. But when they did play with it, we saw a lot of social interaction.

Girl: Ah! That was good!

Girl 2: That was good. Let's drink all of them.

Rachel Borden: They have some prior knowledge, so I think they kind of might have known that, "Okay, if I'm having a picnic and I'm eating, I'm going to talk to my friends about it."

Girl: Want some more chicken, Jaiden?

2016 TIMPANI Toy (10:52)

Julia DeLapp: Each year, we analyze the data, and we designate one toy as the TIMPANI Toy for the year. And we had a lot of strong toys this year, but there was one that stood out. This year's TIMPANI toy is Plus Plus.

Jeffrey Trawick-Smith: The Plus Plus set scored highest on several different categories and was the highest scoring toy overall.

Leah Slawinowski: I think that one did really well just overall because you can do so many different things with it and it can go from just building and using those fine motor skills to put the toy together for these elaborate pretend play scenarios.

Boy: I am a dinosaur!

Jeffrey Trawick-Smith: It was non-realistic and very open-ended, so children could use it in many, many different ways. Also, it was a construction toy, and we've found from previous research that construction toys do very very well on our instrument. As children are building with these toys, they're creating designs; they're testing out their designs; they're re-building their structures. So if you think about it, construction toys like Plus Plus are really simple engineering tools for very young children.

Rachel Borden: Since it was such a simple toy, they were able to do whatever they wanted with it.

Boy: Naelly, can you help me make a bone?

Girl: Yeah. I'll show you how to make it.

Girl: Here we go; here's his bone.

Leah Slawinowski: They would start building something and it would turn into pretend play.

Girl: Fetch!

Julia DeLapp: One of the reasons why Plus Plus really stood out from other toys is that we observed high quality play with both boys and girls – we didn't see some of the gender differences that we did with other toys. And we also observed high quality play with children from different ethnic and socioeconomic backgrounds. It was the highest-scoring toy among Latino children, and it was one of the highest-scoring toys among children of lower socioeconomic backgrounds. So this was a toy that children from all different backgrounds could play with at a very high level.

Girl 1: Say cheese!

Girl 2: Cheese

Girl 1: Chhhh!

Implications for Preschool Classrooms (12:59)

Jeffrey Trawick-Smith: One thing that we've concluded from the study is that teachers should think about including more construction toys in their classroom. We find that those score very, very high. And also we have found that these kinds of toys do appeal to a broad range of children—both boys and girls and children of diverse cultural backgrounds.

Julia DeLapp: This study continues to raise interesting questions about how children from different backgrounds respond differently to toys. We know that children have individual preferences that they bring to their play, and different background knowledge, and that influences how they play.

Jeffrey Trawick-Smith: One implication of this, I think, is that teachers need to observe carefully the impact that individual toys have on children.

Rachel Borden: I never realized there was that much involved in just a simple toy. A toy that I might really like may not be so great to use in a classroom. As a future teacher, I'll really need to think about, "Okay, if I really want my children to work on socializing more," pick a toy that's going to help and foster that.

Girl: This can be your napkin. I'm gonna fold it. This can be your napkin, okay?

Leah Slawinowski: When you're a classroom teacher, sometimes you're not always watching kids play, because you're kind of worried about the whole classroom. But just watching a few kids play, you really learn a lot about just how much they know already, and how different and unique they all are when they play with toys.

Rachel Borden: Certain toys may work better with certain children. Test out toys in the classroom. See if they're not working.

Leah Slawinowski: So I think teachers should have a variation of toys in their classroom just to be aware that maybe some kids play better with one toy than others. That way every kid has a chance to learn just as much, just maybe through just different types of toys.

Jeffrey Trawick-Smith: Teachers should ask these questions about the toys that children play with: Does the toy inspire really elaborate play? Do children use it together? Do they use language a lot as they play with these toys? And perhaps most important, does a toy inspire the highest quality play for both boys and girls, and for children of all cultural or socio-economic backgrounds.

Boy: Hey! Look at this big snake!