

“What are We Going To Do?”

Problem Solving in Sociodramatic Play

Patricia Becker

Introduction

*There's nothing on the shelves.
What are we going to do?
We have to stock it.*

In this narrative from the author's research, 4-year-old Vincent (pseudonym) utilizes self-talk via think-aloud to problem solve during grocery store play. Vincent's self-talk illustrates how problems are inherent in children's everyday lives, and how problem solving skills “travel well” with them (Joseph & Strain, 2010, p. 28; Pawlina & Stanford, 2011). It demonstrates how sociodramatic play encourages children to actively solve problems, express feelings, and make decisions (Rajan, 2014).



Problem solving is a critical component of academic and social emotional learning. It is a life-long skill. For young children, opportunities to make choices and problem solve lay the foundation for later development of self-determination (Palmer et al., 2012). Fetting et al. (2016) note that children who are skilled problem solvers, display increased levels of independence and self-esteem. Problem solving decreases frustration, prevents challenging behavior, and helps children reconcile peer differences (Fetting et al., 2016; Gartrell, 2013). However, young children may not have the experience or ability to resolve problems independently. It is essential to provide them with opportunities to practice problem solving in meaningful and memorable ways (McLennan, 2012).

Sociodramatic Play and Children's Problem Solving Development

One such opportunity is sociodramatic play. In this form of imaginary play, children co-create scenarios, enact roles, and use props. Sociodramatic play supports children's development of self-regulatory skills, which are fundamental to the development of problem solving (Whitebread et al., 2009). Children gain critical thinking skills by problem solving in environments created through drama and play; drama creates an imaginary world for exploring and negotiating multiple problems and solutions (Brown, 2017). Wasik and Jacobi-Vessels (2017) state that

drama “invites opportunities for children to problem solve” and “to use their imaginations and their creativity” (p. 770). Play, on the other hand, provides an authentic context for children to “examine, investigate, focus, and generalize” knowledge and skills like problem solving (Dennis & Stockall, 2014, p. 5). Gross (2015) suggests that play serves a significant role in promoting problem solving because children's investment in finding solutions is greater than during more teacher-directed tasks.

Problem Solving Themes in Sociodramatic Play

Familiar themes in children's play can support and enhance their problem solving processes (Ramani & Brownell, 2014). Scenarios and themes embedded in children's play narratives allow them to “explore who they are and their place in the world” (Kimber, 2010, p. 1). Common threads in children's play narratives include opposing ideas, such as strong and weak e.g. “I'm in charge,” good and bad e.g. “Now you're a bad cat and I don't like you,” and brave and cowardly e.g. “I'm not scared 'cos I'm Spiderman!” (Kimber, 2010). These opposing ideas are recurring themes in children's books as well.

Children demonstrate understanding of opposing ideas, and in particular the concept of *opposite*, between the ages of four and five (Phillips & Pexman, 2015). **Table 1** displays opposite concepts displayed in 4-year-old children's play narratives and

behaviors. Teachers can model and reinforce use of opposites like empty and full during play, using self-talk. They can draw children's attention to problems, solutions, causes, and effects with statements like, "The refrigerator was empty, but we went shopping, and now it is full" or "I filled my gas tank at the station, because it was empty" or "The dog's water dish was empty, so I filled it."

Howe et al. (2014) considers descriptive language, like opposite concepts, an indication of sophisticated, creative language use. They found that descriptive language was positively associated with set-up themes in play. It added richness to children's narratives and expanded "the repertoire of possibilities inherent in a scenario" (Howe et al., 2014, p. 394). In addition to modeling opposite concepts, teachers can incorporate environmental print in play settings, to encourage use of descriptive language and generation of creative problem-solving themes. The environmental print may include doctor checklists, photos of empty/full gas gauges, open and closed signs, mechanic checklists, and lost and found posters. Teachers can foreshadow and build knowledge of descriptive language associated with these themes by reading books like *Don't You Feel Well, Sam?* (Hest, 2007), *Mud Puddle* (Munsch, 2019), *Fix-It-Duck* (Alborough, 2007), and *Lost. Found.* (Arnold, 2015).

Planning to Solve Problems in Sociodramatic Play

Planning plays an important role in problem solving. Epstein (2003) recommends that teachers make planning a part of the classroom day and provide children with a variety of materials that give them problem solving alternatives. For example, before engaging in gas station/mechanic play, teachers can encourage



children to share personal narratives like the 4-year-old's below (Becker, 2015).

My dad hadda [sic] take our van in the shop.

'Cause we had to fix our car.

'Cause, 'cause the engine was broked.

Teachers and children can brainstorm other problems they might encounter like a dirty car, a flat tire, or an empty gas tank. To plan for these potential problems, they can create and collect materials for washing the car, checking the air pressure, replacing and fixing the tire, and filling the gas tank. If conventional materials are not available, teachers can help children plan alternative solutions by saying, "We don't have _____. What could we use instead?" (Epstein, 2003).

Before sociodramatic play, teachers can explicitly teach problem solving and scaffold the planning process. Visuals like Fox and Lentini's "Problem solving Steps" poster and picture cards (<http://csefel.vanderbilt.edu/resources/strategies.html>) can support verbal instruction. The poster and picture cards include questions and prompts like, "What is my problem?"

"Think of some solutions." and "Give it a try!" Teachers can take photos of problem solving scenarios that might occur during play that represent steps in the problem solving process (Diamond & Hsiao, 2019). Fettig et al. (2015) suggests that teachers create a "What should I do?" game, in which children take turns pretending to

Table 1 Opposite Concepts in Children's Sociodramatic Play

Concepts	Narrative	Behavior
sick/healthy	My poor doggy's sick.	Went to the vet
closed/open	Sorry, it's closed	Changed the sign
broken/fixd	My car/truck is broke.	Repaired the car
lost/found	She lost her mouse yesterday.	Made a poster
wrong/right	Well, take this back.	Returned the order

Source: P. Becker (2015).

be characters in books who encounter problems and generate solutions. Similarly, teachers can present children with pre-determined scenarios to role-play solutions to a given problem (McLennan, 2012).

Teachers can also promote planning and problem solving skills through children's games, puzzles, and block play. In block play, children apply engineering design principles when they "build, knock down, and rebuild" (Lindeman & Anderson, 2015, p. 38). Lindeman and Anderson (2015) suggest teachers encourage children to apply these principles and to be creative, and to use communication, critical thinking, and collaboration to problem solve. For example, after reading about the attributes of bridges, teachers can facilitate a discussion of what bridges can be made of and why they need to be strong. They can give children a variety of bridge building materials, including blocks, and ask them to identify problems and solutions they may encounter. After children draw, dictate, or write their observations, problems, and solutions, teachers can engage them in future planning, and discuss how they will apply what they learned about bridges today, to design and build their bridges tomorrow.

Modeling and Scaffolding Problem Solving in Sociodramatic Play

Children may also need support using problem solving skills during play. During play, Epstein (2008) suggests that teachers identify problems children may not be aware of or encourage them to express what they perceive to be a problem. Verbally defining the problem can move children towards solving it (Gross, 2008). After identifying a problem, teachers can pose questions like "What do you think you can do about it?" or "What else can you do?" (Gross, 2008). They can encourage children to see if their ideas work and to consider alternatives when they do not (Epstein, 2008). Reminding children to problem solve and creating opportunities for practice can promote fluency in the skill (Fox & Lentini, 2006).

Teachers can apply Wasik and Jacobi-Vessels' (2017) strategies for supporting children's language, to modeling and scaffolding problem solving in play. These include (a) asking questions that invite extended responses, (b) providing meaningful feedback, and (c) introducing new vocabulary. Teachers can also think aloud about problems and allot time for children to do the same (Gross, 2015). For example, during veterinarian play, teachers can ask open-ended questions like, "How do you know your dog is sick?" introduce new vocabulary via a think aloud like, "I wonder if your dog has an infection. That could be the problem," or ask the child, "What do you think is the problem?" When thinking aloud, teachers can further model how to make connections to prior knowledge and real world problems and solutions, for example, "I remember when my dog had an infection. I had to give her medicine."

Gross (2015) identifies additional principles for teachers when modeling and scaffolding problem solving in early childhood classrooms. They include:

1. Use nonjudgmental words to define problems.
2. Ask children to think of solutions that satisfy multiple sides.
3. Allow children to say no to solutions that do not satisfy them.

Teacher's use of modeling and mindful language plays a critical role in how children learn to problem-solve (Kelley, 2018). In Kelley's (2018) narrative study, early childhood teachers frequently modeled how to solve their own problems using calm, positive, and strategic think aloud. They used mindful language to bring nonjudgmental awareness to a scenario, provide feedback, and position the child as the solver (p. 314). In addition to mindful language, teachers can scaffold problem solving more explicitly, by asking, suggesting, informing, and directing. **Table 2** provides examples of how the author modeled and scaffolded problem solving in play.

Problem Solving Discourse in Sociodramatic Play

Children initiate and respond to problem solving discourse during play. They display rich language use that serves a range of functions or purposes. While Peterson et al. (2018) did not intentionally analyze children's play transcripts for problem solving discourse, their categories and sample utterances provide examples of it. Children used language (a) for their own needs, "Can you get me a wheel please?" (b) for learning, "I need two lists because I'm making a big list," (c) for getting along, "Want me to help you?" (d) for expressing disagreement, "Wanna switch? They're both the same," and (e) for directing, "Find an axe." The children's word choices suggest they were identifying,

Table 2 Teacher Models and Scaffolds of Problem Solving in Sociodramatic Play

Theme	Model or Scaffold	Props
Veterinarian	Do you think he needs a bandage or a shot?	Stuffed animals, Doctor's kit, Checklist, Medical supplies
Grocery Store	I found a pencil. I needed one so I could make my shopping list.	Grocery store ads, Coupons, Shopping list, Pencil
Gas Station/ Mechanic	Oh, those windows are really dirty. We need to wash the windows.	Car, Spray bottle, Squeegee, Towel
Construction	We have to start framing our house. We can pretend the blocks are our lumber.	House building books or photos, House plans, Blocks
Restaurant	Sometimes you have to wear gloves when you're making your sandwich. Then you don't get germs on the sandwich.	Sandwich supplies, Non-latex gloves

Source: P. Becker (2015).

negotiating, or addressing a problem. In fact, one of Peterson et al.'s codes was planning what to do, or talking through a problem, "I'm gonna build something with these" (p. 27).

During play, children may also use language to reference cognitive and emotional states using words like know and sad (Howe et al., 2014). This internal state language may be an indicator of their social understanding and ability to co-construct play narratives (Howe et al., 2014). The author found evidence of internal state language, for example, "That's a sad dog. My dog is sad," as well as problem solving language used to pretend, suggest, inform, relate, think aloud, ask, express wants and needs, and direct in 4-year-old children's play discourse. As children negotiated and created play scenarios, references to problems and solutions were natural by-products (Becker, 2015). **Table 3** provides examples of children's problem solving discourse and discourse functions in play.

Table 3 Children's Problem Solving Discourse and Discourse Functions in Sociodramatic Play

Theme	Discourse	Function
Veterinarian	Pretend your dog runned away without the leash on.	Pretend Suggest
	Here, he's sick. He needs some medicine.	Inform Direct
	What's wrong with your dog?	Ask
Grocery Store	Okay, I don't have any money. I need a credit card.	Think aloud Express wants and needs
	It (the bag) tore. It ripped. I'm gonna get plastic.	Relate Think aloud
	Someone should stock the shelf.	Suggest
Gas Station/ Mechanic	Put some gas in.	Direct
	What is your problem today?	Ask
	I have to pump it. He has a flat tire.	Think aloud Inform
Construction	It will help you. These (home building brochure) are 'structions.	Inform
	There's a little more counters coming back (on back order). There's counters just not here right now.	Inform
Restaurant	This (apron) make you sure you not get all messy.	Inform
	We left our cheese out. And it spoiled. So we need new ones right now.	Relate Direct

Source: Examples from P. Becker (2015)

Problem Solving Retellings in Sociodramatic Play

Sociodramatic play and narrative text are structurally similar. They both include story grammar elements like characters, settings, problems, and solutions that children can incorporate in retellings. Teaching children about story grammar elements, and how stories are structured, will help them comprehend narrative text (Dymock, 2007). The author found that play provides a motivating context for children to tell and retell stories that include these elements. Teachers can facilitate and assess children's narrative comprehension and production by eliciting, recording, transcribing, and providing feedback on children's play retellings.

Play retellings require as little as one-minute to record. They yield authentic data useful for progress monitoring, and provide evidence of how children understand problems and solutions (Becker, 2015). To elicit individual or co-constructed play retellings, teachers can prompt children with, "Tell me a story about your play" or "Tell me a story about playing ____ today." They

can scaffold children's play retellings by providing visual or verbal supports that include icons, questions, cloze, and/or multiple choice that remind children to incorporate characters, settings, problems, solutions, and emotions in their stories.

Two examples of 4-year-olds' restaurant play retellings from the author's research are below. Prior to play, the teacher and children brainstormed potential problems and shared personal narratives in which spilling and breaking themes were prevalent. These themes and the wrong order scenario teachers role-played, were frequently reflected in their play and play retellings, over the next two weeks.

Teacher: *Tell me a story about your play today.*

Child: *Uh, I was the server. And then I make a sandwich at the restaurant. And then (peer's name) spilled her, her apple juice. And then she was crying. And then I hel...and then I cleaned it up. And then she...and then it solved the problem. And then, and then it was all gone. And then she was happy.*

Teacher: *Tell me a story about your play today.*
 Child: *I was a customer. And I was waiting for my food. And I wanted pepper and the oni.*
 Teacher: You wanted pepperoni?
 Child: *And they did it all wrong.*
 Teacher: *The did it all wrong?*
 Child: Yeah. (Laughs). *They forgot it. And then they fix it all up.*
 Teacher: *Whew!*
 Child: *And then that was the end.*

Conclusion

The ability to problem solve is critical to academic and social emotional learning. Problems and solutions are inherent to children's sociodramatic play themes and play discourse. This makes play an authentic medium for teachers to promote problem solving in the early childhood classroom. Teachers can facilitate the problem solving process by engaging children in planning activities and instruction, and by providing problem solving models and scaffolds during play. They can observe and analyze children's problem solving discourse during play, and elicit retellings after play.

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