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# Supporting problem solving in the early childhood classroom

by Carol M. Gross

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“I don’t want to.” “I can’t.” “He won’t let me.”  
“She hit me.” “You can’t play with us.” “Me first.” “I was using that!”

Teachers of young children hear these and other phrases like them all day long. Children argue over such things as:

- materials,
- who will be the boss,
- who will be first,
- who will hold the door, and
- how things will be done.

They puzzle over how to do a task. And they find ways not to do what an adult wants. As teachers, we often don’t even stop to think about the problem. When we hear or see one, we solve it quickly—almost without thinking—and move on. We feel that we must; there are many children and adults waiting for us to make decisions on the next thing.

Because of this instinct to solve children’s problems for them, however, we miss opportunities to help children think out and solve problems on their own and acquire the skill of problem solving.

## Problem solving—a learned skill

When children are encouraged to take the time necessary to solve a problem with another child, they are forced to put themselves in the other child’s place. They must hear what the other child says is the problem and thinks is the solution.

To arrive at a mutually agreeable solution, both children must give up their first choice and look for other answers that will satisfy both of them. Or they must find the words to convince the other child that their way is good for both of them.

In either case, a great deal of learning is involved (Dewey 1933). In this process, children have to open up their thinking by imagining new ways to express themselves in order to get what they want or need. Stretching their minds in this way gives them practice and eventually develops an essential skill in solving problems of all kinds: academic, social, and personal. When young children learn this skill, it can serve them well for the rest of their lives.



## What's the teacher's role?

Teachers must support children in expressing their ideas and needs and listening to others' ideas (Goncu, 2000; Piaget, 1963). We must stop what we are doing, give up for the moment what we think is important, listen to what children are telling us, and find ways to help them think out what to do.

At first, helping children develop this skill takes a lot of time, but eventually it helps us. We are freed from the constant interruptions that make us the focus of almost every argument. We find that children, who found it easier to just ask us what to do, can figure out many tasks by themselves.

As a community of problem solvers, we make the classroom the continual learning experience Dewey envisioned long ago. The more we relinquish the role of problem solver, the more children will assume it. By taking the time to help children think out each problem as it arises, listen to each other, and find their own solutions, we help children learn to do this independently. They join us in managing the classroom and making it a shared effort. As a result, we are freed to support the children in more productive learning overall.

## Observing how children solve problems

To look at strategies teachers use to help children solve problems, I videotaped children in an early childhood classroom. I chose a classroom in which a primary goal was for children to learn to solve problems independently and interdependently. Their teachers were unusually successful at helping them learn this skill.

For seven months, I spent one morning each week "catching" children solving problems and teachers supporting them. I videotaped problem solving during indoor play, transitions, group times, meals, and outdoors. I taped children alone, in pairs, in small groups, and in the whole group.

What I found was at times predictable and at times surprising. Often, it was what the teachers *didn't* do that made the difference in getting children to find solutions rather than what the teachers did do.

From the first moment I began to observe, there were problems to be solved and strategies children and teachers were using to solve them, both successful and unsuccessful. Few problems were left unresolved.

The problems were the usual sort: property disputes, arguments about who would play which role,

reluctance to comply with teacher requests, name-calling, difficulty in joining play, issues over space or materials, demands that things be done a certain way, and trouble in figuring out tasks.

## Identifying teaching strategies

The teachers (we'll call them Emma and Amelia) were, above all, calm and non-judgmental almost all the time. They used a total of 21 different strategies in supporting the children's developing skills. In general, the teachers did the following:

- They did not pressure children to choose a particular solution, even if children refused a number of possible solutions offered by the other child.
- They employed a variety of strategies to help children, not the least of which was quietly observing from a short distance to be able to intervene if necessary.
- They accepted the children's solutions if both parties were satisfied, even if the solution did not make sense to the adults.

The most prevalent teacher strategy was *defining the situation*, which in itself, sometimes moved children toward solving the problem. Teachers verbalized what it seemed each child was saying: "You want to play where Caleb is playing now," for example. Then the teacher might ask, in a neutral voice, "What do you think we can do about it?"

This was often enough for children to either solve the problem and go back to what they were doing or continue talking to the other child to arrive at a solution.

Here's an example of a teacher helping a 3-year-old by defining the situation.

Nathaniel seems to have fallen out of the chair.

He rights the chair.

Amelia (coming over, showing concern): "Are you OK? How did that happen?"

He tips it part way again.

Amelia: "It just tipped like that?"

Nathaniel nods.

Amelia: "I think you're right. Where was your body?"

Nathaniel points to the arm.

Amelia: "You were on the arm. Do you think that might be why it fell?"

Nathaniel: "Yeah."

No need for further problem solving or a lecture. The point had been made.

Another important strategy teachers used was *acknowledging feelings*. This was often used with defining the situation, as in the following episode when one child wants another to play with him.

Bo: "But I don't want to."  
Jay: "But you have to be a GI Joe with me."  
Emma: "Jay, you would very much like Bo to be a GI Joe in your game?"  
Bo: "But I'm a police."  
Emma: "But Bo is being a police officer."  
Jay (very quietly): "But I need someone to play with me."  
Emma: "Oh... Jay is having trouble finding someone to play with him."  
Bo: "Hey, but you can play in there (pointing to the climber) with Ella."  
Emma: "Would you like to go play with Ella?"  
Jay: "No."  
Bo: "With Ethan?"  
Jay: "No."  
Emma: "That's not a good suggestion, either?"  
Bo: "But what's a good suggestion?"  
Jay: "I need you to play with me, Bo."  
Emma: "Yeah, it doesn't seem like that's gonna work. Bo isn't available."  
Bo: "I'm not available."  
Emma: "He's in the middle of another game."

Jay sits down at a nearby table and throws his head on his arms.

Emma: "That made you really angry, Jay? 'Cause you wanted to have Bo play with you? You didn't want anybody else... and you really wanted him to play your GI Joe game?"

Jay (very softly): "Yeah."  
Bo (coming over): "But I'm not available."  
Emma: "Yeah, you don't have to play his GI Joe. I'm wondering, though, if Jay wanted a police officer in his game, would you be available for that, or no?"  
Bo (nodding): "Yeah."  
Emma: "Would a police officer be good in your game?"  
Jay: "Yeah."

Jay gets blocks and adds them to Bo's police building.

Here, the teachers helped Jay get what he wants, while also helping him to see that he has to be flexible about offering the other child something he wants as well.

Often, several strategies were combined. On one occasion, in the dramatic play area, Amelia acknowledged feelings, defined the situation, and *asked questions to help children think* so they could arrive at a solution. Here's how it unfolded:

Mike puts a blanket on Melissa and Anthony. Bo comes over and puts one on all of them.  
Melissa (yelling): "Stop!"  
Amelia (coming over): "Mike, your friends are saying stop."





Mike stops but gets close to Melissa's face and screams.

Melissa and Anthony try to straighten out the blanket they were using.

Amelia: "Mike, do you want to play?"

Melissa to Amelia: "We'll play with him later."

Mike: "Can I play with you?"

Melissa: "La-ter."

Mike: "You!"

Amelia: "Oh, are you angry that they're saying later? Do you want to play now?"

Amelia to Anthony and Melissa: "What are you guys playing?"

Anthony: "Froggy."

Amelia: "Froggy."

Anthony: "Yeah."

Amelia: "How are you playing it?"

Anthony: "We cover" (covering their legs with the blanket).

Amelia: "You cover...and..."

Melissa lies down.

Mike lies down next to her.

Anthony takes another blanket: "We have a big blanket. We can share it a lot."

They all play.

Here Amelia never tells the children that they have to play with Mike. She asks questions to help them define what they are playing and, in the process, subtly reveals the way the game works to Mike so he can join in without their disapproval.

Sometimes, however, none of these strategies worked. In one episode in the block area, Emma used defining the situation, asking questions, and *asking for clarification*. But the children continued to play and argue for quite a while.

This contrasts sharply with later in the year, when the children had learned to give up some of their territory to solve the problem.

Ava (going over to sand): "I want to play, too."

Ava looks at Emma, then Rachel: "I want to play, too."

Rachel: "OK, you can be the daddy or the grandma."

Ava (pointing to Rebecca): "Great. "

Rebecca: "I wanna be the daddy."

Ava looks at Zoe.

Rachel: "OK. Zoe's being the ...the big sister."

Ava (pointing to Rachel): "And you?"

Rachel (looking at Emma): "I'm being the mom."

Rebecca (to Ava): "You can be the little girl."

Rachel: "You can be the grandma."

Ava: "I want to be the little sister."

Rachel: "OK. Talk to Zoe."

They play.

What's remarkable about this incident is:

- No one seems particularly upset in these negotiations, which go on for a fairly long time without any teacher support.
- Some of the children accommodate by changing their choices seemingly without difficulty.
- All the children appear to understand that they can advocate for themselves if they want something strongly, but they are able to be generous when they don't care so much.
- All seem able to switch roles fairly easily.
- Some assist others in deciding on a role to play.

The children's behavior here represents a set of negotiations that never could have occurred in the early part of the year. This suggests that, even when teacher support for problem solving was not successful, it may have helped children over time in two ways. First, it helped children feel empowered to express their needs. Second, it taught them a pattern of thinking and the process of problem solving.

It was becoming clear that children were learning the process of finding solutions on their own. There were increased incidents in which children spent time negotiating but did not call a teacher over to help them solve a problem.

### **Problem solving as a teaching strategy**

Some problems diminished, and some increased during the year.

- Overall, the number of problems decreased.

- Specifically, property disputes and violence diminished greatly by mid-year.
- Conflicts surrounding wanting to play and wanting space also diminished.

Children's problem-solving strategies evolved over the year in these ways:

- from simple, sometimes physical, approaches such as grabbing or running away to more complex and sophisticated ones such as using words, negotiating, and waiting (not a simple accomplishment for a young child); and
- from quick solutions to negotiations that took more time.

Children could sustain longer discussions of how to resolve a problem on their own without resorting to physical means, violence, or falling apart.

REMAIN CALM AT ALL TIMES, WHICH IS  
**NOT ALWAYS EASY.**

Teacher strategies, however, did not change as much during the year. Teacher strategies remaining constant may be an additional clue to what helps children solve problems. The teachers were consistent in their approaches and their expectations for children's behavior.

Previous research reveals some disagreement on what promotes problem solving. But research shows almost unanimous agreement that play, particularly



dramatic play and blocks, is a significant vehicle for supporting this learning (Gross 2005). Among other reasons, children's investment in finding solutions to problems during play is greater than during a teacher-directed (or researcher-invented) task.

## Principles teachers follow

The teachers in this study used a variety of strategies to help children learn to think out problems.

- They remained calm at all times, which was not always so easy.
- They put the problem into words that *didn't judge* either side of the disagreement.
- They asked children to think of solutions that could satisfy both sides.
- They allowed children to say no to any solution that did not satisfy them, so children felt safe in trusting that the teachers were on their side too.
- They allotted a substantial amount of time in the day to child-directed play, a key ingredient to problem solving, as suggested by Vivian Gussin Paley (2005) and others.
- Rather than sending away children who were not involved in the problem, they allowed those children to help in suggesting solutions. These children can often be helpful.
- The teachers were willing to take time with children, not rushing their thinking. They themselves spent time visibly thinking about the problem, which was a model for children to think too.
- They waited, in silence at times, for children to think.

I am not saying problem solving is easy. It is not. It is one of the hardest skills to build. It takes a lot of self-control for the teachers *and* the children. It doesn't happen quickly, even for these experienced teachers. But when time is invested, successes begin to happen.

This study offers insight into possible teacher roles in children's learning of problem solving as well as in building the classroom community.

Problem solving is, in itself, an important element in classroom life, enriching the children's experiences and language and learning.

In addition, studies indicate that helping children learn to think is essential to academic success in later school years (Marcon, 2002). Our hope is that when children become adults, the skill of thinking can help them solve the bigger problems in our world, just as they solved the smaller ones in the early childhood classroom.

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Carol M. Gross is an assistant professor in Early Childhood Education at Lehman College of the City University of New York. In addition to teaching young children and directing early childhood programs, She has shared her expertise in college classrooms in the New York area. She earned her doctorate at Teachers College, Columbia University, in 2005.