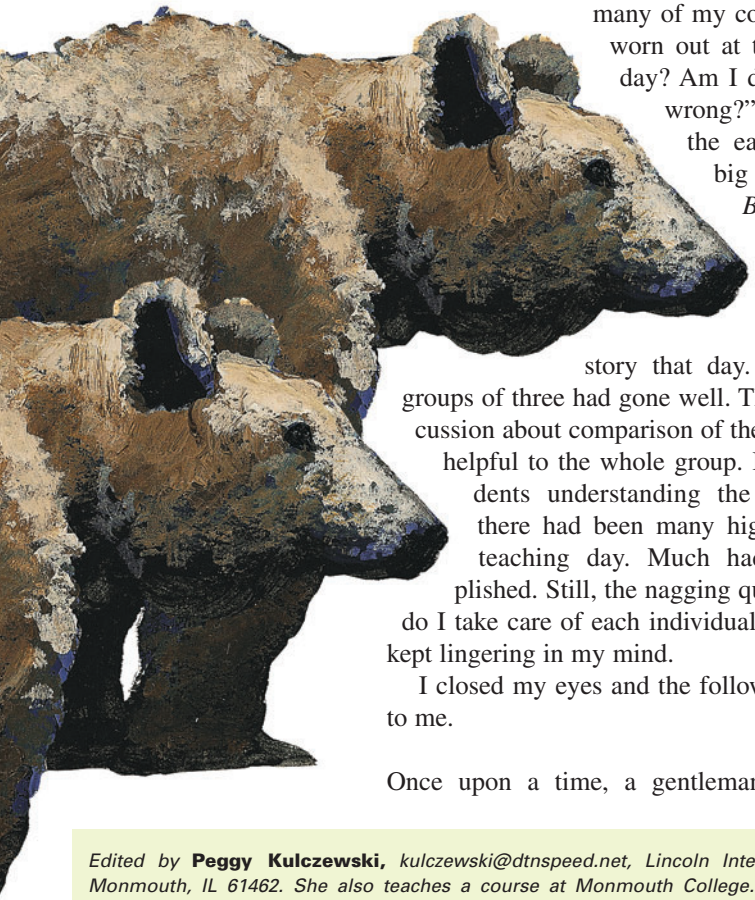
Peggy Kulczewski

Vygotsky and the Three Bears

It was 4:30 p.m. and I had just finished straightening up my kindergarten classroom. I let out a sigh. It had been a very long day—the kind of day that leaves you scratching your head and saying to yourself, "Did any learning take place?" I wondered, "Why did Kathy push Tom into the pile of blocks? Why didn't my new center with pattern blocks work for Joey? Luis loved it and he stayed on task. Poor Jennifer—she just started crying when everyone else was counting by 2's."

I walked over to my overstuffed chair and plopped down. Too few moments for rest and reflection exist in teaching, yet I decided to take the time for them. I wondered, "Do many of my colleagues feel so worn out at the end of their day? Am I doing something wrong?" I looked over at the easel holding the big book *The Three Bears.* I smiled, remembering how all the students had enjoyed the story that day. The lesson on groups of three had gone well. The students' discussion about comparison of the bears was very helpful to the whole group. I saw many students understanding the concepts. Yes, there had been many high points in the teaching day. Much had been accomplished. Still, the nagging question of "How do I take care of each individual child's needs?" kept lingering in my mind.



I closed my eyes and the following story came to me.

Once upon a time, a gentleman was traveling through the woods looking for the Three Bears. The gentleman was Lev Vygotsky, a famous Russian psychologist. He saw a house and went to the door. He knocked softly. Fortunately, the Three Bears were home.

"Good afternoon, Papa Bear," the visitor said. "I have heard so many good things about you and your family. My name is Professor Vygotsky."

"Greetings to you," replied Papa Bear. "Please excuse the mess. I was just repairing Baby Bear's chair, which broke recently. Would you like to come in?"

"Yes, very much, thank you. I like to study how people and bears learn, and I was hoping that you would be willing to talk to me."

"My wife and I would be honored," said Papa Bear.

Papa Bear was very proud of his wife and baby cub. They loved one another very much and had many pleasant experiences together. Papa Bear took Vygotsky to the kitchen and introduced him to Mama Bear, who was at the table drawing a picture, and Baby Bear, who was playing with the measuring cups.

Vygotsky admired Mama Bear's drawing of a bowl of fruit. Then he leaned down and started stacking the measuring cups with Baby Bear. Papa Bear chuckled. "I take it that you have worked with children and cubs before."

"Oh, yes," Vygotsky said. "What joy it is to see how they develop reasoning skills. I wanted to ask you what types of activities Baby Bear likes to do."

Mama Bear said, "That's easy. Baby Bear finds the world a fascinating place. He isn't afraid to try new adventures and he feels good about his accomplishments. Listen to him count to ten, Vygotsky."

Baby Bear was all smiles as he belted out his numbers. Everyone clapped.

"So you're telling me that Baby Bear feels capable in his mathematics skills," Vygotsky said.

"Oh, yes," Papa Bear remarked. "Baby Bear likes to count, sort, make patterns, match—all sorts of things that relate to building on his ability to do mathematics. Just the other day, he put all the yellow plastic cars in one pile and all the red ones in a different pile. He couldn't do that a week ago."

"What made the difference?" asked Vygotsky.

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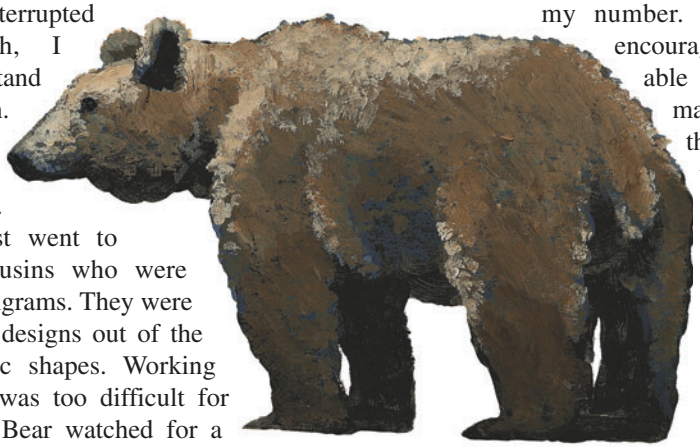
Papa Bear rubbed his chin with his paw, thought for a moment, and said, "We bears enjoy honey cookies with many ingredients going in the bowl, then the stirring and the baking. It's all sprinkled with lots of love. I think it is the same with learning. Take one precious bear cub and give him a safe, encouraging environment. Let him grow strong with good food and a positive atmosphere to try new things, where getting the wrong answer is OK. Give him social interaction with his parents and cousins, and opportunities to explore physical objects such as blocks, measuring cups, and counting beads. Mix with the physical maturity of learning new tasks. It all equals to one happy bear cub who loves to learn and loves to eat honey cookies. Would you agree that this is also true with people, Vygotsky?"

"Most certainly," laughed Vygotsky. "I have been working on a theory about how children learn. I believe that every function in the child's cultural development appears twice—first, on the social level, and later, on the individual level; first, between people, and then, inside the child's mind. This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals" (Vygotsky 1978, p. 57).

Mama Bear and Papa Bear listened intently and nodded in agreement.

Vygotsky continued, "My other concept is called zone of proximal development. Children will make progress learning when parents and teachers give them opportunities that are challenging but not to the point of frustration."

Papa Bear interrupted excitedly, "Oh, I think I understand what you mean. Recently we had a big Bear family reunion. Baby Bear first went to some older cousins who were playing with tangrams. They were making animal designs out of the seven geometric shapes. Working with tangrams was too difficult for our son. Baby Bear watched for a while, listened to the cousins' conversation, and then toddled over to some younger cousins who were playing with dominoes. Baby Bear knew how to stack dominoes but had not noticed the dots on them. One cousin helped Baby Bear find two dominoes that had the same number of dots. Baby Bear got very excited and stayed there for fifteen minutes, matching dominoes and talking to his cousins about what he was learning. They shared their learning with him too!"



"That's right!" exclaimed Vygotsky. "I notice that when children are encouraged by others, they will learn more than when left in isolation. Communication is so important to the development of the mathematical mind. As we learn, we gain insights into our thinking by listening to others and verbalizing our own thoughts. Hearing other people's perspectives helps us evaluate our own thinking about the subject."

"I had given him a task that was not too hard and not too soft. It was just right."

Mama Bear said, "This has been so interesting! As you were talking, I was thinking of an activity that Baby Bear and I were doing the other day. Baby Bear was counting his toy rubber balls and I wrote the numeral 3 on a piece of paper. At first, he was confused about how many balls to put beside my number. After discussion and encouragement, though, he was able to place three balls to match the numeral 3 on the paper. We continued with 4, 5, 6, and 7 with success. He became frustrated with eight balls and the numeral 8. It was time to rest and celebrate what we had accomplished. I had given him a task that was not

too hard and not too soft. It was just right." With that, Mama Bear broke into a big smile.

"How right you are, Mama Bear," said Papa Bear. "For learning to occur for a bear cub or a child, being physically mature enough to accomplish the task is very important. That's the first condition. Second, the more opportunities to manipulate physical objects to understand the relationships, the better. Third, interacting with playmates, parents, and teachers stimulates children and cubs to develop their own ideas and to make sense of the learning" (Burns 2000, p. 28).

The time flew by for Vygotsky and the Three Bears. They enjoyed some porridge together as they discussed learning. Soon it was late in the afternoon.

"I can't believe how fast the time has flown," said Vygotsky. "I must get back to the university. Thank you so much for your hospitality."

"Please come back soon," Papa Bear replied. "We so enjoyed your company."

Vygotsky bowed respectfully to Papa Bear and Mama Bear and said farewell. Baby Bear toddled over and hugged Vygotsky's knees. He did not want Vygotsky to leave.

It was time to go home. I was ready for the next day and looking forward to the many opportunities that awaited me. I believe that all teachers need to take time to reflect on the learning levels of each child and to develop appropriate activities to challenge each student. Of course, Vygotsky did not really visit the Three Bears, yet one can imagine that if they had met, their conversation might have occurred this way. Vygotsky focused the majority of his research on language acquisition, but I believe that it has implications for us mathematicians to ponder as well: "Not too hard, not too soft—just right."

References

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Vygotsky, L. S. *Mind in Society.* Cambridge, Mass.: Harvard University Press, 1978. ▲