

# I Cook and I Understand

*I see and I forget. I hear and I remember. I do and I understand.*



This mantra, based on a Chinese proverb, is repeated over and over in teacher training classes across the country. After all, a student can memorize the formulas for various triangles, but unless this knowledge is applied in actually building something, the understanding remains two-dimensional. What good is memorization of facts and formulas if the child has no opportunity to apply that knowledge?

I have 10 years' experience teaching and a master's degree in education but it wasn't an educational curriculum that taught me an activity that reinforces skills in the areas of math, science, social studies and language—all in one shot. It was an afternoon spent baking cookies with my 4-year-old son, Seanie.

"Where is that three-quarter cup measure?" I mumbled. "No bother," I said to my son. "I'll just take a one-half cup measure and a one-quarter cup measure. That's the same as a three-quarter cup."

As we continued to cook, we discussed washing hands before cooking and how germs spread. Seanie learned about friction when he greased the pan. He saw butter change from solid to liquid in the microwave oven, a preview for later instruction in the states of matter. When we put a knife into the cup of flour, he noticed that the flour level went down. I told him he had popped some air bubbles in the flour, and the concept of displacement was introduced. When my son hears about

density of matter down the road, he might remember the difference between pouring in the white sugar vs. the brown sugar.

"Hand me an egg, Seanie," I asked.

"There is a chicken in this egg," he kidded.

This led to a conversation about oviparous vs. viviparous animals, which was, quite frankly, headed in a direction I didn't wish to pursue with my 4-year-old just then. I changed the subject.

"Your daddy used to be a cook, you know.

That's why I always call him Cook," I said.

"No, he wasn't," Seanie said. "Daddy is a policeman."

"Yes, he is. But when he was in school, he worked long hours flipping pancakes so he could buy a car and go to college."

Cooking is a great opportunity to bring up family history and lore.

The high point of the cookie baking experience is adding the chocolate chips. It is also the time of greatest temptation, as tiny fingers try to make their way into the bowl to snatch a chocolate morsel.

"No, no, Seanie," I said. "How old are you?"

"Four and a half." (He's got that fraction down pat.)

"Okay. We'll round it off to five. Here—one, two, three, four, five." I barely got that last number out before all five chocolate chips were devoured, leaving a little chocolate residue around my son's grin.

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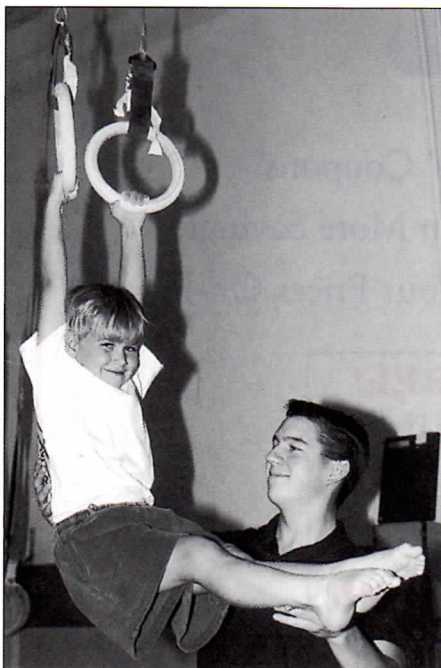







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Next came time for the ultimate sensory experience—rolling the cookie dough into little balls and placing them on the tray. Seanie has a habit of bunching all the cookies together, so I reminded him how cookies expand in the heat. We decided to make four rows of three cookies (a quick introduction to multiplication) to give us 12 cookies. "Twelve is a dozen," I told Seanie.

We talked about how eating raw cookie dough could give him a stomachache and that the heat from the oven kills certain germs. If I had the time, I could have introduced the food pyramid and how cookies are found at that top little section of foods to be eaten only occasionally. But Seanie was busy sponging off the island where we had been preparing our cookies.

"Mom, would you wet this sponge? It got all dry," Seanie said. I thought about the concept of absorption, a concept he was experiencing first hand.

Some researchers say that the ability to postpone gratification is a predictor of success in life. Activities like cooking build up this ability. Cooking teaches children growing up in a fast food world that following a process and showing perseverance pays off great dividends—not just in the pleasure of devouring piping hot chocolate chip cookies, but in the feeling of accomplishment that lingers long after the cookie jar is emptied.

I am not silly enough to expect Seanie will remember how to add fractions at the tender age of 4. But, if my estimates are correct, we will be baking approximately 70 more batches of cookies before he enters the fourth grade when he *will* be expected to master this skill. I hope that, when his teacher asks the class to explain this concept, Seanie will raise his hand and say, "Well, when I was baking cookies with my mom . . . ."

Just in case, I think I'll pitch that three-quarter cup measure.



*Mary Anne Duggan, a Scottsdale kindergarten teacher, is the mother of Taylor, 8, and Seanie, 6.*