

What can bind mathematics, language development and values in a classroom?

The answer is storytelling! And this article aims to show how a topic of measurement in primary school mathematics can be made meaningful and contextual when introduced through a story.

I have had the pleasure to work with the children and teachers of Indus World School, Gurgaon since past three years. Each year the brief on final outcome of storytelling sessions is different. In the year 2015-16, the brief was to make the stories given in text books tell-able and interesting. I was given a free hand to plan the story session right from modifying the stories if need be to choosing appropriate technique for the story, and planning post story activities emerging from the story.

One of the stories in English Text book for Grade 3 was: A Pound of Butter. The basic story line (given below)

A POUND OF BUTTER

There was a farmer who sold a pound of butter to the baker. One day the baker decided to weigh the butter to see if he was getting a pound and he found that he was not. This angered him and he took the farmer to court. The judge asked the farmer if he was using any measure. The farmer replied, Your Honor, I am primitive. I don't have a proper measure, but I do have a scale." The judge asked, "Then how do you weigh the butter?" The farmer replied "Your Honor, long before the baker started buying butter from me, I have been buying a pound loaf of bread from him. Every day when the baker brings the bread, I put it on the scale and give him the same weight in butter. If anyone is to be blamed, it is the baker."

This was fleshed out by adding descriptions of the characters, setting, presenting a growing friendship between the farmer and the baker, the baker learning of farmer's giving less butter than professed, and the final discovery of who was at fault. The original story was extended by the judge asking the farmer to decide how the baker should compensate him and the farmer asking for new weights as compensation.

Although the story was a perfect example for discussing values of honesty and how one gets back what one gives, plot revolved around measuring quantities. This gave me an idea for a post story activity which explored values through integrating English and Maths.

I planned a post-story activity which involved verifying honesty of the food manufacturing companies by applying mathematical knowledge. For this, I had to collect the following resources before the story session: a kitchen measuring scale and food products of different brands.

On the day of the session, the story was narrated with voice modulation and appropriate use of 'pause'. Since I had shown the baker and the farmer as friends, many few children were either disappointed or appalled or angry when they figured out how the baker was the real culprit and had been cheating the farmer. After a discussion on the story, the children were divided into groups and each group was asked to select one packet from



the products kept on the table.

Next the children were asked to read the information on the packaging and write down the important heading mentioned. They showed great interest in reading the information and were surprised at the number of things mentioned on the packages.



After this, the students made a note of the quantity written on food packages and noted these on a questionnaire.



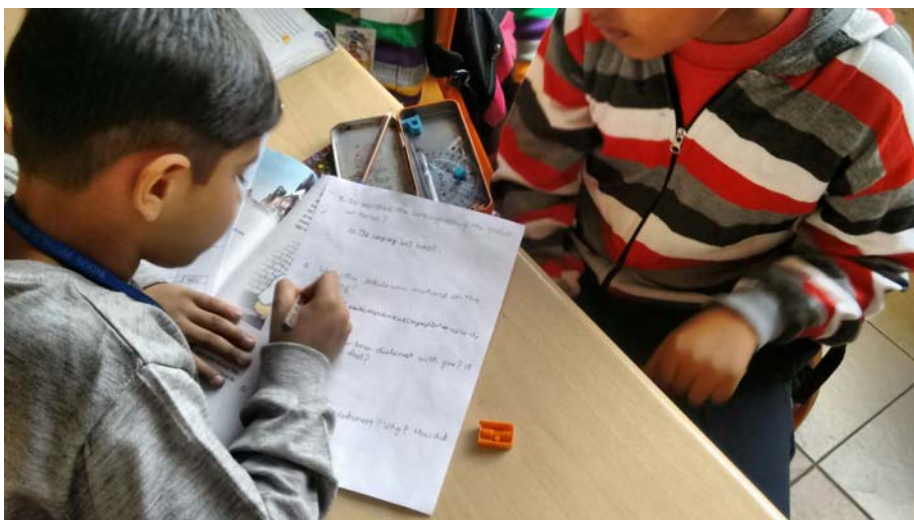
This was followed by each group measuring the products on the weighing scale and verifying if the quantity stated by the company matched the actual physical measurement.



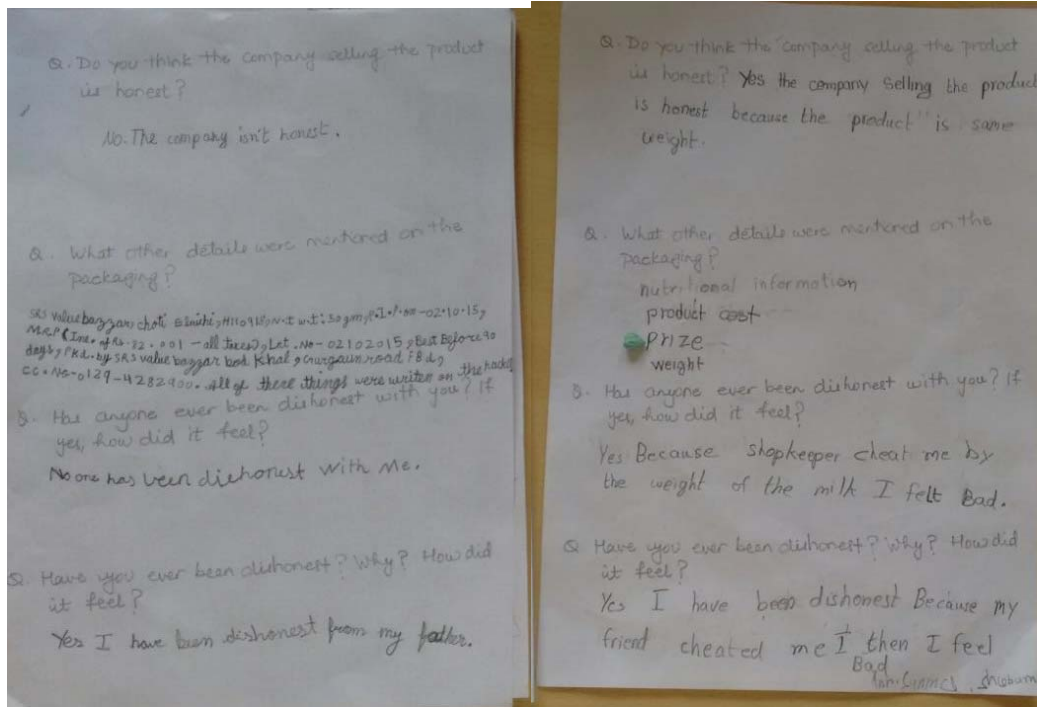
Most groups were happy when the physical measurement of product tallied with the weight mentioned on the package. One group was pleasantly surprised the item weighed more than what was written on the package, while another group was very disappointed as they realised that the physical weighing verified that the quantity of the product was less than what was mentioned on the package. They felt cheated and said that “the company was misleading the customers by selling less quantity than they stated.” Interesting this emotion of being cheated was evoked even though they had not bought the product.

Further, children wrote individual answers to the following four questions:

1. *Do you think that the company selling the product is honest?*
2. *What other details were mentioned on the packaging?*
3. *Has anyone ever been dishonest with you? How did it feel?*
4. *Have you ever been dishonest? Why? How did it feel?*



Once the children had worked independently on their sheets, each child got an opportunity to share their prior experiences and learning. They discussed how it feels when someone cheats them, if they have ever been dishonest and why. The children were very open during the sharing and admitted to being dishonest or holding information, at times, for the fear of scolding or punishment. They appreciated the value of 'honesty' in any situation.



The skills of language listening, speaking, observing, reading and writing were all involved during the session.

In this entire process, the children were completely immersed and engaged, hence they owned their learning. I learnt that planning before the session, pre-empting questions and difficulties which may arise, helped me to observe the children closely and facilitate the process by providing appropriate support and help, when needed.

Their teacher was very happy with the post story session felt it was an excellent entry to topic of Measurement which she was planning to start. She said she would take it further by adding different units of measurements, its multiples and sub multiples. She decided to change her plan for entry to the topic and rather than starting with length (as she had planned), decided to begin with weight.

Many teachers complain that the course is too vast and they do not have time for stories or activities, but it was felt that if subject teachers were to sit together to work out the interconnections in the different subjects and have stories bind at least two subjects, it would take lesser time to complete the course. Also, the transition from one topic to another would become easier and the topics in Mathematics could emerge from the real life or imaginary problems faced by a story character, hence be contextual and meaningful. On the whole, learning would be a richer and integrated experience for the children as well as teachers.

- Seema Wahi Mukherjee