

Mathematics in Sweets

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We have often seen that what we think happens the way we wanted it to happen but at times the results are much better than what we expected.

I am saying this because of an incident that took place sometime back. I was teaching mathematics to class 2. I was asked to keep the level of children in mind before going ahead. I was to teach them the concept of place value that day. One day before teaching this concept, I was discussing with my fellow teachers about the ways to teach it. I made a note of all the suggestions that came my way in my diary.

I went to the class the next day and had some general talks with the children about their home and family. Just then one child said, “Sir, please tell us a story today.” Immediately the other child stopped him and said, “Are we studying Hindi? This is mathematics period and who tells a story in mathematics period?” When I heard children talking like this, I had a sudden insight. Why not use a story to explain the concept of place value? Immediately I made children to sit in a circle and started telling them the story of ‘*silai binai mithai*’.

The story was like this. A granny and her granddaughter lived in a village. Granny had a sweetmeat shop where she used to prepare *silai binai mithai* and sell them. Those were the days when the sweets were counted and sold. For example if someone asked granny to give 25 *silai binai mithai* then she had to count each sweet one by one. It used to be a big problem if somebody wanted 65 or 85 sweets because then granny had to count starting from 1, 2, and 3 till 65 or 85. Granny used to be very upset with this. Deepavali festival was round the corner. A big crowd was expected to come to granny’s shop and buy sweets. So granny took her granddaughter to the shop with her to help her out and to get some respite. The granddaughter had vacation for Deepavali. So from next day, both granddaughter and granny started going to the shop.

Granny made her granddaughter to sit in the shop and sell sweets while she got busy in preparing sweets. But do you know something? The

granddaughter did not sell the sweets the way her granny used to sell them. She made many bundles of *silai binai mithai* having 10 sweets in each bundle. If somebody wanted 25 sweets then the granddaughter would give 2 bundles and 5 loose sweets. Similarly, if somebody wanted 45 sweets then the granddaughter would give 4 bundles and 5 loose sweets. Granny was watching this transaction from inside and felt that her granddaughter was counting sweets in haste and was so quick in her dealings that something might go wrong and perhaps it was a wrong decision to bring her along to the shop. She thought that the granddaughter had messed up things. However, granny continued to prepare sweets with a disturbed mind.

By evening granny had finished preparing sweets. She was upset that granddaughter had muddled up everything. She was sure that they would not have earned the expected amount of money. She thought that she used to earn well during Deepavali festival which was also about to get over. Anyway, granny came to the cash counter and saw a lot of money there. She was stunned! She could not believe that so much of money was earned. She was also puzzled about the fact that her granddaughter could count so many sweets in such a short time. How could she be so quick? She was dumbfounded.

She went to her granddaughter and asked how she could manage to sell so many sweets in such a short time because the cash box was full of money. The granddaughter was bombarded with many question like how did you do this or how did you count and sell so many sweets in such a short time etc.

The granddaughter heard these questions and laughed and then started explaining. She said that she counted *silai binai mithai* as soon as she came to the shop and made several bundles of them having 10 sweets in each bundle. When a customer came asking for 26 sweets, she would give him 2 bundles and 6 pieces separately. Similarly, if the customers wanted 45, 79, 47 or 87 sweets then I would give them the bundle/bundles of sweets and separate sweets on the basis of the number they wanted. Granny was amazed to hear this and thought that

she could neither do nor think of such a thing ever. Granny asked her granddaughter how and where she learnt these things. Granddaughter said that in their school they play these kinds of games in mathematics class. Granny was extremely happy to hear this. She hugged her granddaughter and said jokingly – Madam ji, you have eased my work. Now I will also sell sweets like this every day.

All the children were listening to the story very carefully. They were enjoying it a lot. After completing the story I asked them, “Would you also like to prepare *silai binai mithai*?” The children gladly agreed. We made four groups of children and each group was given many spokes, rubber bands to tie the spokes and a dice. Then the game started which was like this - if I get 5 by throwing the dice then I will keep 5 spokes with me. The other children of my group will also take turns and throw the dice and keep the number of spokes that the dice has. When my turn comes again and I get 6 then I will have 11 spokes with me. Out of these 11 spokes I will take out 10 spokes and make a bundle of them. As we get our turn we will continue to make bundles of 10 spokes.

The game was at its peak. The children were enjoying the game with lot of enthusiasm. After a while I went to each group and started talking to them casually. I asked them to give me 25 *Silai binai mithai*. After they gave it to me, my next question was that in order to give me 25 sweets how many

bundles had to be made and how many loose sweets had to be given to me. They would answer correctly. The whole process was progressing very well. I was going to each group asking questions and they were answering well. Later, we wrote the number of *Silai binai mithai* prepared by them. For example, 5 bundles of 10 and 8 sweets would mean 58 sweets.

The story followed by the game provided a new direction to the children. They were playing it every day and were able to explain it. I myself could not believe that the children were able to relate the understanding of bundles with place value. I would ask them to explain the meaning of 35 and they were able to tell me that (3 bundles of 10 and 5 sweets) it means 30 and 5. They were learning from each other and going ahead. This process had established the concept of place value well in the mind of children and the proof was the way they were all making bundles correctly. From bundles to place value – the journey was smooth and automatic.

The story of *Silai binai mithai* was not limited to that class alone, but it spread to their homes and neighbourhood. I tried to share this story with the teachers of other government schools during training sessions. And whenever I get an opportunity, I tell the story of *Silai binai mithai* to everybody.

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