Flowing with the river

By Nabanita Deshmukh | Jun 30, 2014

What better way to teach students about rivers than to give them the opportunity to observe rivers first hand? Nabanita Deshmukh shares her experience...

LAND OF RIVERS

It all started in Arunachal Pradesh, the place known as ‘The Land of the Rising Sun’. On second thoughts it could’ve been named ‘The Land of Mighty Rivers’ because a large number of rivers flow through the state. In this context, our Geography workshops became all the more relevant.

We visited many schools in Arunachal Pradesh in 2009 and 2010 to conduct workshops in English and Geography. Once, during one of our workshop we suggested to the Principal of a Middle School to arrange a trip to the river bank for his students.

“Why teach students about rivers closeted in a classroom when all around us flow mighty Himalayan Rivers?” we asked. The enthusiastic Principal immediately organised a trip to the nearby Deopani River for the students.

RIVER EXCURSION

Once the children were on the river bank, we asked them to note down all that they saw, smelt, touched, heard and sensed. There were about 25 students of Standard -7 and 3 teachers. The children wrote down their observations in their notebooks. A rocky outcrop became our classroom. The students read out all that they had written: transparent water, fish, crabs, stony bank, dhobis, picnickers, cool breeze, surrounding jungle, ripples etc…

The objective of this excursion was to begin a process in experiential learning. The students got out of the rote-learning habits and came in direct contact with the object of their study, which in this case was the river. The children smelt the fresh, morning breeze, marvelled at the transparency of the water, heard the ripples lip-lapping against the shore and touched the large stones below their feet. By doing so, their sensory perceptions got enhanced and learning became much more fun and interesting.

RIVER LESSON

Back in the classroom, we showed the students a slide show of the raging Deopani River flooding its banks. We then asked the students to enumerate natural and man-made benefits and threats of rivers based on what they knew or had studied in class. We drew two columns on the board and noted down the answers.

By using videos in class, the students’ interest levels were maintained for longer periods of time. Also, it was a perfect learning-medium for children who were ‘visual or auditory learners’ and often found books and conventional methods of teaching boring and tiresome.

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<th>BENEFITS OF RIVERS</th>
<th>THREATS TO RIVERS</th>
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<td>Flooding</td>
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<td>Fishing</td>
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<td>Transport</td>
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<td><strong>Hydroelectricity</strong></td>
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The teachers could also use newspaper articles or photos to start a class discussion if projectors and computers are not available. One teacher told us that he regularly used a large map of India to show the origins (sources), tributaries and the end (mouths) of rivers. He then hid the map and distributed outline maps to his class. The students were asked to identify certain rivers like the Lohit, Subansiri and the Dibang. This exercise helped them visualise the location of rivers rather than just knowing them by their names.

**WATER CYCLE**

We underlined ‘water cycle’ from the answer list and chose a song to explain the process. We then taught the children how to sing the *song*. After the song, a student drew the water cycle on the board and explained its function to the whole class.

Using a song to teach a scientific concept like the water cycle, for example, was an effective learning-aid. It helped the children concentrate and allowed all of them to participate in the activity. Also, the repetition of the refrain reinforced key concepts like *evaporation*, *condensation* and *precipitation*, made it easier to understand the concept of the water cycle. The children enjoyed the activity and asked many questions.

“I have seen streams coming out of rocks even when it’s not raining, Ma’am. How does this happen?” asked a girl who had recently gone to a hill station for a holiday. It was a relevant question and we explained the phenomenon by a simple experiment.

**RIVER EXPERIMENT**

**Objective:** To demonstrate what happens when rain falls on a mountain

**Materials used:**
- A cup of water
- A piece of sponge
- A dish

**Procedure:**
- Hold the dish over a basin in a slanting position.
- Place the sponge on it.
- Pour the water from the cup on the top end of the sponge.

**Description:**
- The sponge soaked in the water until it got saturated. When it could no longer hold the water, a thin trickle began to flow out from the lower end of the sponge.

**Conclusion:**
- This experiment demonstrated how the mountain soil soaks in rain and lets out streams even when the weather is dry and it has not rained for many days.

**END OF THE RIVER**

The children were all quite excited after the experiment and soon began displaying their photos that had taken on the river bank. “We’ll make a river album, Ma’am!” one of them cheerfully said, “And we’ll name our project ‘Deopani Darshan!’” said another one. They all began to work on their project, some wrote the report, others posted photographs, and another group recorded the water cycle song while a few others made illustrations for the river experiment.

We had now reached the ‘end of the river’ and on this happy note, we ended our session with the bright-eyed students of a small school in Arunachal Pradesh.

**Category:** Classroom Resources  
**Subject:** Environmental Science  
Science & Technology