NDAcademic Insight

"Every time I see a river"

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NOTRE DAME SCHOOL

Rosenshine's Principles* emphasise how the most effective teaching includes opportunities for retrieval, lots of questioning from the teacher to check students' understanding of schema, the presentation of new material in small steps, modelling and scaffolding of tasks. Students must not stop after learning the information once, they must continue to rehearse it by summarising, analysing, or applying their knowledge.

One of our Year 8 Geography topics is to learn about rivers and flooding. Here's an example of how their learning can be embedded with application to a novel situation.

A 'geogif' animated image of a confluence of rivers at Devprayag in India provided a great opportunity to stimulate discussion. This place is where two great Himalayan rivers join to form the River Ganges. The powerful image was provided for students to use later in their independent learning tasks. The water in the rivers could clearly be seen moving towards the camera, so that students were able to 'see the geography happening'.

The class was asked to contribute ideas about what they could see. Immediately, they had great ideas including key terms such as river channel; tributary; gorge and confluence. They were then asked to expand and consider, if there was a gorge, what else might be found out of shot? They then remembered waterfalls and rapids. Some students helpfully suggested that this might be in the 'upper course' of the river.

The teacher took a few minutes to provide some wider context, including links to other curriculum subjects such as Theology. He explained that the place name 'prayag' means confluence and 'Devprayag' means 'Godly Confluence' in Sanskrit. In Hindu scriptures Devprayag has sacred status as the meeting point of two rivers: the Rivers Bhagirathi and Alakananda and they join to form the holy Ganges.

The students then commented on the striking contrast in the colour of water in the different rivers, and this led to discussions about the processes going on involving the different amount and type of suspended load in each river: why does one river appear to have lot of suspended load, but the other seems to have very little. One common misconception arose – an assumption that the 'brown river' is 'polluted' or 'dirty'. In fact the load might be small particles of eroded material full of nutrients that will help farmers further down the river, so it may be a good thing. Conversely, dissolved pollution may be invisible in the clearer water.

Talk turned to other reasons why the river might be brown; recent heavy rain upstream? Rock flour from glacial melt in the Himalayas? Or why the other river was blue; no recent rain upstream? Could a dam upstream be trapping the sediment, reducing the load? So, it's possible that the brown river might actually be just as healthy or perhaps even healthier.

The students were fascinated to learn that the two rivers carry on as separate rivers after the confluence and some remembered looking at aerial images of our local River Mole meeting the River Thames at Hampton Court, doing exactly the same thing.

This opportunity to apply their knowledge to a fascinating 'new' place will provide an important 'aide-memoir' in the future. Hopefully, it will also inspire them to apply their knowledge **every time they see a river**.

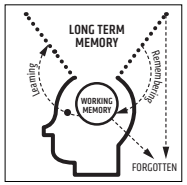
Further NDAcademic Insights available here

**Barak Rosenshine was a professor in the Department of Educational Psychology at the University of Illinois, where his research focused on learning instruction, teacher performance, and student achievement. His 'Principles of Instruction' are a key building block of the most recent teacher training and development.*

Other Topics in the NDAcademic Series

It takes a village

Every time I see a river



It's all in the mind