Elementary Science

Using stories: environment

Teacher Education through School-based Support in India
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TESS-India (Teacher Education through School-based Support) aims to improve the classroom practices of elementary and secondary teachers in India through the provision of Open Educational Resources (OERs) to support teachers in developing student-centred, participatory approaches. The TESS-India OERs provide teachers with a companion to the school textbook. They offer activities for teachers to try out in their classrooms with their students, together with case studies showing how other teachers have taught the topic and linked resources to support teachers in developing their lesson plans and subject knowledge.

TESS-India OERs have been collaboratively written by Indian and international authors to address Indian curriculum and contexts and are available for online and print use (http://www.tess-india.edu.in/). The OERs are available in several versions, appropriate for each participating Indian state and users are invited to adapt and localise the OERs further to meet local needs and contexts.

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Video resources

Some of the activities in this unit are accompanied by the following icon:  *. This indicates that you will find it helpful to view the TESS-India video resources for the specified pedagogic theme.*

The TESS-India video resources illustrate key pedagogic techniques in a range of classroom contexts in India. We hope they will inspire you to experiment with similar practices. They are intended to complement and enhance your experience of working through the text-based units, but are not integral to them should you be unable to access them.

TESS-India video resources may be viewed online or downloaded from the TESS-India website, http://www.tess-india.edu.in/). Alternatively, you may have access to these videos on a CD or memory card.

Version 2.0 ES10v1
All India - English

What this unit is about

Storytelling has been an integral part of Indian culture for thousands of years, with many stories being passed on from one generation to another. Using such traditional tales told as a story or poem, as well as those written by contemporary Indian authors, can provide an enriching teaching tool in the elementary science classroom.

Listening to and reading stories can enable students to explore a range of concepts with more enthusiasm. Stories and poems can be used to introduce new topics and terminology, explain abstract ideas, and present scientific problems. Thus they provide an excellent basis for meaningful scientific inquiry.

This unit explores the use of traditional and contemporary stories and poems to help teach elementary science in an engaging way.

What you can learn in this unit

- Using stories to introduce topics and to create a stimulating classroom environment.
- Understanding the importance of engaging students in learning to raise their achievement.
- How to encourage empathy and care for the environment in your students.

Why this approach is important

Learning science can be stimulating and exciting as it relates so much to everyday life. Using local resources, such as people and places or things like plants, animals and minerals, can make every lesson more real and stimulating. How you start or introduce any new topic can make a difference as to how students participate or not in the lesson, and how easy it is for you to maintain an interactive classroom.

This unit explores the creative use of stories and poems to introduce lessons about the environment that could greatly enhance the learning experience. Bringing in innovations that encourage curiosity and self-learning and foster awareness of the topic could lead to a very positive lasting experience for each student. Not least, everyone likes to listen to a story, and as a result, more students will be involved.

This unit focuses on stories and poems as one creative approach but much of what you read and learn in this unit can be applied to other strategies too. Stories and poems, whether traditional tales or new pieces specifically written for a lesson, can, as Cavendish et al. (2006) say, provide real contexts for you to introduce science in ways that make sense to the students.

1 Finding stories to use

As you plan your lessons you may often think how you might introduce a new topic. If your next topic is related to pollution in the local environment, you might want to look at the state of the water in the river or investigate what litter can be found there. But a traditional tale, or a specially written story or poem about a river, stream or ditch, could act as the initial stimulus for investigative work into contamination of the local water supply.

Starting with your students' own experiences is important – especially with younger students, as they do not have as much experience of life in the wider world. Using experiences or strategies that your students cannot relate to their immediate environment will make it harder for them to make sense of the information. If, however, you use something that is local and relevant to them, you will have better success.

Resource 1, 'Using local resources', suggests ways that you can use local resources; it also explores some issues you need to consider as you set up different experiences for students to stimulate their interest in a science topic. Most students are ready to share their experiences, which will not only give them confidence but will also tell you what they already know so that you can plan to extend their ideas rather than teach material they already know.

The skill of using a variety of stimuli in your lessons relates directly to your own disposition, personality and enthusiasm, and is strongly linked to your responsibility to do the best for your students to help them learn well. Your perception of your students plays a vital role in helping them focus, sustain and direct their attention towards the desired learning objectives. This makes teaching much more productive, efficient and interesting for you as you take into account the different interests, abilities and ways of learning for each student.

The following case study describes how one teacher uses poems in a dramatic and creative way to involve her students and to gain their full attention at the start of her lesson about trees.

Case Study 1: Introducing trees

Miss Singh, a new teacher to the school, is working in Mahdyar Pradesh with students in Class III. She has asked all the children to bring a picture of a tree or to make a drawing of a tree and bring it to class. She has made a model of a tree, using branches and leaves she has collected, and set it in a pot as her contribution. She also wears a salwaar kameez with a green tunic, and brown leggings to act as the trunk of the tree. Read how she explains what she did next and how her students responded.

At the start of the lesson I carried my model tree into the room and placed it on the table and stood by the table. The students were really interested and suggested it might be a mango tree because of the leaves I had used and the fruits I attached.

As I entered the classroom some students also commented on my outfit, with such statements as, 'Oh you look good, Miss Singh' and 'You have tree colours on'. I was pleased that they recognised what I was trying to do. They also liked the tree model a lot and commented that it was like their pictures. I thanked them and then asked all those who had pictures to bring them out and place them on the wall around the model. Next I called them to sit and listen while I read them a poem about a tree. [See Resource 2 to see the poem and picture.]

After reading the poem, and having asked if they liked the poems, I began to question them about trees as we looked at the 'wood' we had created around my model tree.

We discussed what you could get from a tree, and here is some of the script of our talk to show how much the students wanted to be involved.

I asked: 'What do you get from a tree?'

They replied: 'Squash, mango, gerandel, fhal, kati ramro phul, chaya ho miss, kath deye miss wood wood …'

I said: 'That's great, indeed, but do you think squash grows on a tall tree? [I used actions as well for tall.] What is gerandel? Will you get it for me tomorrow?'

Some students responded together: 'Yes, miss, mero gharma gerandel ko per ho?'

I asked: 'Do you mean to say you have a gerandal tree at home?'

The student replied: 'Yes, miss.'

I ask: 'What does "kati ramrod phul" mean?'

A girl comes out and shows a flower on my dress saying how beautiful it is.

I repeat: "'Kati ramro phul", "How beautiful are flowers"; "ramrod phul", "beautiful flowers", is that right?'

Another student (keeps repeating): 'Kath, gur …'

I ask her: 'What is "kath" and what is "gur"?'

The child points at the desk and says: 'This is made of wood, kith is wood. I will bring gur tomorrow; it is very sweet to eat. At my grandfather's house, there is a big, big bowl to make "gur". So many people come in morning with "ras". It is like sweet water, miss, from the khejur tree. They boil "ras" and make "gur".'

I say: 'So "gur" must be jaggery. Do bring some for us tomorrow.'

The child says she will.

After the lesson I reflected how delighted I was at their responses and I have learned as much about trees from them and how they use them, as they did. I looked at their ideas on the board and realised how difficult it was to stop them talking as they were so motivated and enthusiastic and wanted to talk about their own experiences.

I was very pleased with the range of ideas they proffered and their genuine interest in the topic. It was a fun lesson for them and for me, and they left the class busily talking about their trees.

My next lesson will use the objects they bring in to start looking closely at the structure of the different leaves and fruits so that we will be able to recognise them in the local area.

Pause for thought

- How did the poem and picture stimulate the students? Were more students involved?
- Have you tried such activities yourself? If so, how did your students react?
- Have you continued to use such an approach? If so, why? If not, why not?

The poem and drawings here, as well as the teacher's model, all stimulated many ideas in the students' minds about trees and they were able to explore how trees can help people, from food to wood. The first activity is simple in some ways but needs you to read and select carefully so that it stimulates your students and matches their level of understanding.

Activity 1: Finding a poem or story

Think about some of your favourite stories, either written tales or fables told by experienced storytellers. Could you use any of these stories when exploring the environment with your students?

Look through any books you may have of stories for younger students and select any that might help you introduce a topic or issue about the environment.

List the stories that you know and could tell, and the books that you have access to and could use in science lessons. If you have access to the internet, you could look for stories and poems online that you could use as a stimulus to start off a lesson.

This will take time and is something that could be ongoing, as new books and stories are always being printed and told. This will build up a resource for you to help you plan interesting lessons for your class.

Pause for thought

Did you enjoy this task? If you enjoyed collecting stories you can imagine how much your students would like to listen to some of these stories and the impact this will have on their motivation.

How can you insert more stories into the curriculum that you teach?

Video: Using local resources

http://tinyurl.com/video-usinglocalresources

Your resource of stories and poems could stretch across other science topics as well and help you to stimulate interest in those topics too. There are some stories in the textbooks too. You could share the resource from Activity 1 with other teachers and if you find out their favourite stories you could add them to your resource file.

2 Using poems and stories

The next case study shows how one teacher uses a special storyteller in her class. Read it and think how you could do something similar, perhaps more simply but with the same impact on your students.

Case Study 2: Singing a story

Miss Amita is a teacher at a government school at Jodhpur, Rajasthan. She belongs to the Bishnoi community of Rajasthan and is planning a lesson for her class on the conservation of trees. Here she describes how, after a visit to a local festival, she decides on an exciting way to introduce her students to the topic of conservation of trees.

I was at the Marwar Festival (held in the first week of October) when I met Mangilal Mistry, an artisan and folklore singer from Udaipur (another city of Rajasthan). Mangilal had a man-sized 'Kaavad' [portable wooden temple or shrine], which had colourful illustrations of the historic event in which the Bishnois laid down their lives to save the trees of their village.

I watched his performance and decided to ask if he could visit our school to sing the ballad and narrate the story about the Bishnoi act of valour to our students to introduce my new topic. He was very interested and I said I would arrange all the permissions needed to allow him to visit. [See Resource 3 about organising visits and visitors.] Next day I met the Principal and convinced her about the performance and how it would be beneficial for raising awareness among all the students.

On the day of his visit, Mangilal Mistry arrived early so he could fit in two performances with both the younger and older students. He had his beautiful Kaavad, a large red box with brightly painted pictures, to help him [Figure 1].

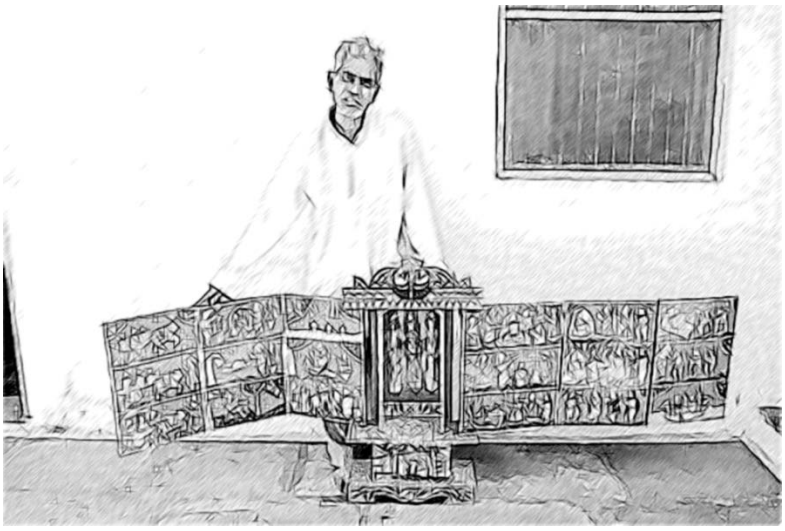

Figure 1 Mangilal Mistry with one of his Kaavad.

Mangilal started by asking students about their ideas about the importance of trees to their local community and, as the responses poured in, he started singing out the story of the Bishnois. As he told the story, Mangilal opened each door of the Kaavad with their dramatic scenes, helping the story to progress.

The story had the students engrossed and questions poured in from students as he spoke. As Mangilal continued, he interspersed his storytelling with questions about trees. He asked, 'What would life be like without trees? Can you live without them? Should we try to save them? If so, how?' The students responded and agreed the following statements.

The students' responses were passionate as they said:

- by hugging them
- by stopping people from cutting them down
- we must plant more trees
- each one of us will take the responsibility of one tree in our village
- not allow anyone to harm them.

I thanked Mangilal for his storytelling and invited him to join in the next part of the lesson. The ensuing discussion was lively as students explored their ideas further. Mangilal and I responded and asked more open-ended questions to encourage them to think about some of the problems we might have in protecting the trees.

I wrote their ideas on the board and, at the end of the lesson, after asking the students to give a vote of thanks to Mangilal for his wonderful storytelling, I asked them to think about how we can prioritise what we can do and tell them that we will talk next lesson. They left the classroom slowly for their break but many students went to look at the Kaavad more closely and talk with Mangilal.

Activity 2: Using a poem or story

This activity asks you to teach a lesson using a story or a poem about the environment. Use the story or poem to introduce a new topic or lesson to gain your students' interest and to stimulate their ideas about an environmental issue. Read Resource 4 for possible ways to do this.

- Decide what topic you are going to introduce, e.g. river pollution or the problem of litter, healthy drinking water, saving trees or the impact of traffic on local indigenous plants.
- What do you want the students to learn? Brief any visitor or storyteller about this so they can support you.
- Having chosen the topic, pick a suitable story or poem you could read from the resource you made in Activity 1. Is there a local tale you could tell to help set the scene for your topic? You may want to make up and tell your own story so that you can set the scene more specifically. Perhaps you could use a local storyteller whom you have briefed about the kind of story you want. Another approach you could use is to invite a local environmentalist to come in to talk about a local issue such as how the water has become so polluted.
- As you write the lesson plan, list some key questions you want to ask the students.
- Work out how you will sit the students to listen to the story or other input and where they will sit to work afterwards.
- What task(s) could the students do? Perhaps they could work in groups so they can talk, as this would help deepen their learning.
- Gather the resources you need for the lesson.

'The Rat Snake and the Rats' (see Resource 5) is one story you could use if you wish, but there are many others too. Now teach your lesson and, as it progresses, note how the students participate in the lesson. Take note of the comments and understanding the students show through their talk.

Pause for thought

After the lesson, reflect on what went well and why.

- Were the students stimulated by your creative way of introducing the lesson?
- How do you know this? Were those with special needs more active in the lesson and did they understand better?
- What evidence do you have to say it did have a positive effect on their learning?
- What didn't go quite as you expected? Why?
- What can you do to make it better next time?

Video: Storytelling, songs, role play and drama

http://tinyurl.com/video-ssrpd

Activity 3: Collecting more stories

During one lesson spend a few minutes asking your students about the stories they have heard in their families or seen on TV or read in newspapers that are related to the plants and animals in the area. Give them time to share their stories and then ask them to write a short outline of the story. Each group could produce one or more stories. Collect these in a folder or tie them together into a book so that everyone in the class can look at them when they have time, perhaps when they finish their work early. This is a way to build up a student resource that will stimulate their interest and help them to think about issues in the environment.

Activities like a story or a poetry reading will enliven a classroom environment and you can gain individual student interest and participation much more quickly if what you do captures their imagination. Other activities such as songs, drama and role play could also be used in similar ways to those suggested here. Resource 6, 'Storytelling, songs, role play and drama', gives more advice and ideas to help you as you plan and select what you do. Such activities play a significant factor in students remembering more and hopefully developing more empathy in the students for the environment. It also plays a significant role in helping students to remember more and hopefully develops more empathy in the students for the environment.

3 Summary

Having used an innovative way to introduce your students to a new topic, you will have seen how much more interest and animation was shown by them. You may have noticed too how many more of them participated in the lesson. Stories appeal to all students, regardless of their ability, and provide real contexts for learning that help many students who find theory difficult without the link to their everyday life.

The advantages and impact of using such creative and stimulating means of introducing a topic such as storytelling are that they:

- arouse students' attention and sustain it through the lesson
- motivate learning through new explorations and investigations
- build positive feelings towards teacher and school
- cater for individual sensory preferences to facilitate learning
- promote learning by actively involving students
- develop students' empathy for the environment
- provide educational entertainment
- develop interpersonal relationships between the teacher and students.

The major challenge for a teacher when studying the environment with a class is to build on the students' own knowledge of the natural world and to help them to understand and use that knowledge. This unit has introduced you to ways to draw out what your students already know about their local environment. Matching your choice of strategy(ies) to your students' interests and stage of development will contribute much to their enthusiasm for environmental science and the topic you are studying. By encouraging such engagement you can trigger motivation, which can lead to learning experiences that your students will never forget.

Resources

Resource 1: Using local resources

Many learning resources can be used in teaching – not just textbooks. If you offer ways to learn that use different senses (visual, auditory, touch, smell, taste), you will appeal to the different ways that students learn. There are resources all around you that you might use in your classroom, and that could support your students' learning. Any school can generate its own learning resources at little or no cost. By sourcing these materials locally, connections are made between the curriculum and your students' lives.

You will find people in your immediate environment who have expertise in a wide range of topics; you will also find a range of natural resources. This can help you to create links with the local community, demonstrate its value, stimulate students to see the richness and diversity of their environment, and perhaps most importantly work towards a holistic approach to student learning – that is, learning inside and outside the school.

Making the most of your classroom

People work hard at making their homes as attractive as possible. It is worth thinking about the environment that you expect your students to learn in. Anything you can do to make your classroom and school an attractive place to learn will have a positive impact on your students. There is plenty that you can do to make your classroom interesting and attractive for students – for example, you can:

- make posters from old magazines and brochures
- bring in objects and artefacts related to the current topic
- display your students' work
- change the classroom displays to keep students curious and prompt new learning.

Using local experts in your classroom

If you are doing work on money or quantities in mathematics, you could invite market traders or dressmakers into the classroom to come to explain how they use maths in their work. Alternatively, if you are exploring patterns and shapes in art, you could invite maindi [wedding henna] designers to the school to explain the different shapes, designs, traditions and techniques. Inviting guests works best when the link with educational aims is clear to everyone and there are shared expectations of timing.

You may also have experts within the school community (such as the cook or the caretaker) who can be shadowed or interviewed by students related to their learning; for example, to find out about quantities used in cooking, or how weather conditions impact on the school grounds and buildings.

Using the outside environment

Outside your classroom there is a whole range of resources that you can use in your lessons. You could collect (or ask your class to collect) objects such as leaves, spiders, plants, insects, rocks or wood. Bringing these resources in can lead to interesting classroom displays that can be referred to in lessons. They can provide objects for discussion or experimentation such as an activity in classification, or living or not-living objects. There are also resources such as bus timetables or advertisements that might be readily available and relevant to your local community – these can be turned into learning resources by setting tasks to identify words, compare qualities or calculate journey times.

Objects from outside can be brought into the classroom – but the outside can also be an extension of your classroom. There is usually more room to move outside and for all students to see more easily. When you take your class outside to learn, they can do activities such as:

- estimating and measuring distances
- demonstrating that every point on a circle is the same distance from the central point
- recording the length of shadows at different times of the day
- reading signs and instructions
- conducting interviews and surveys
- locating solar panels
- monitoring crop growth and rainfall.

Outside, their learning is based on realities and their own experiences, and may be more transferable to other contexts.

If your work outside involves leaving the school premises, before you go you need to obtain the school leader's permission, plan timings, check for safety and make rules clear to the students. You and your students should be clear about what is to be learnt before you depart.

Adapting resources

You may want to adapt existing resources to make them more appropriate to your students. These changes may be small but could make a big difference, especially if you are trying to make the learning relevant to all the students in the class. You might, for example, change place and people names if they relate to another state, or change the gender of a person in a song, or introduce a child with a disability into a story. In this way you can make the resources more inclusive and appropriate to your class and their learning.

Work with your colleagues to be resourceful: you will have a range of skills between you to generate and adapt resources. One colleague might have skills in music, another in puppet making or organising outdoor science. You can share the resources you use in your classroom with your colleagues to help you all generate a rich learning environment in all areas of your school.

Resource 2: 'Growth of a Tree' by Meish Goldish

I'm a little maple, oh so small,
In years ahead, I'll grow so tall!
With a lot of water, sun, and air,
I will soon be way up there!

Deep inside the soil my roots are found,
Drinking the water underground.
Water from the roots my trunk receives,
Then my trunk starts making leaves.

As I start to climb in altitude,
Leaves on my branches will make food.
Soon my trunk and branches will grow wide,
And I'll grow more bark outside!

I will be a maple very tall,
Losing my leaves when it is fall.

But when it is spring, new leaves will show.
How do trees grow? Now you know!

Figure R2.1 A mango tree.

Resource 3: Inviting visitors into school

Inviting local experts, performers or storytellers into school can be a very stimulating experience for all your students, and teachers too. It is important to plan ahead and to check that the visitor can do what you want, on the date you want. If you invite a visitor to the school, you need to think about:

- the topic you want the visitor to talk about
- devising clear learning objectives for the topic
- who in the community could do this in a way that is appropriate for your students
- ways and means to contact the person
- gaining the permission of the headteacher of your school
- telling the visitor about the objectives laid down by you and discussing how to achieve them
- preparing the visitor to answer questions from children
- making arrangements for maximum student participation
- deciding how to use the resource in forthcoming classes after the visitor has left
- how the children can continue to draw on the day's learning in future
- seeking feedback on the process from your co-workers regarding how stimulating the effort had been for the children.

Resource 4: Ways to use stories in the classroom

When selecting stories to use in science you need to be sure that it relates to the topic you are teaching and also how you could actually use the story in the lesson. There is no purpose in reading a story if it does not have any relevance to your science topic. You need to look at children's stories whenever you can and note titles that might be useful in lessons later. An interesting story is one that has:

- a clear story throughout, with an introduction, development and a swift conclusion
- action
- vivid description
- repetition of main themes for emphasis

- an appeal to feelings and emotions
- characters children can identify with and villains they can dislike
- subject matter that relates to your science topic
- a story that you can use to stimulate your students' thinking.

When you have selected the story you want to use, you need to plan your lesson and think about how and when you will read the story. For example, do you want to read the whole story? Or do you want to read only part of it so that you can set a problem or investigation for the students to do based on the story? Maybe you can read the story and then have students role play different people or animals and explore ideas from within the story. This is often possible with environmentally based stories, as often they are written specifically to explore the questions around such matters as protecting trees or investigating pollution.

How and where you read a story can also affect its impact. Reading a story about light in a room that is perhaps not well lit by the sun can add atmosphere for the students. Alternatively, reading a story outside when exploring shadows can help students to look at shadows as you read.

As a school, teachers could work together to build up a list of stories to tell or to read around science topics and so help students enjoy science more.

Resource 5: A rat's tale

Read the story below for yourself and think how you might use it in your science lesson.

'The Rat Snake and the Rats'

A rat snake lived in an anthill on the edge of a rice field. It ate the rats that came to the field and the godown. One day the snake was very hungry and chased a rat that came near the godown. But the rat was very clever – she ran fast and escaped into the godown. The snake slithered off to find another rat.

Figure R5.1 A rat snake.

Our rat now could eat all the rice she wanted without worrying for a while. Like other rats, she eats about 50 grams of rice a day.

One day the rat gave birth to eight babies. A mother rat produces babies in three weeks. The rat and her babies grew up without fear as the farmer tending the field had killed the snake because he did not know that rat snakes are not poisonous and are harmless to humans.

Very soon the rat's eight babies grew up and started eating rice.

Baby rats can produce more rats at an age of about five weeks. All of them eat the rice in the godown. Six weeks later our first rat has become a grandma and four of her babies now have babies of their own – eight each!

In five weeks these babies start eating rice and now many rats are all eating 50 grams of rice a day. One rat eats 1.5 kilograms of grains in 30 days but rats eat not only rice but also any grain they can find, even cooked food and vegetables. They also carry many germs and cause disease among humans. Of course, the godown has many other rats too so the population continues to grow.

How do you think rats affect us? What could we do to limit the number of rats without being cruel? Why should we do this?

Resource 6: Storytelling, songs, role play and drama

Students learn best when they are actively engaged in the learning experience. Your students can deepen their understanding of a topic by interacting with others and sharing their ideas. Storytelling, songs, role play and drama are some of the methods that can be used across a range of curriculum areas, including maths and science.

Storytelling

Stories help us make sense of our lives. Many traditional stories have been passed down from generation to generation. They were told to us when we were young and explain some of the rules and values of the society that we were born into.

Stories are a very powerful medium in the classroom: they can:

- be entertaining, exciting and stimulating
- take us from everyday life into fantasy worlds
- be challenging
- stimulate thinking about new ideas
- help explore feelings
- help to think through problems in a context that is detached from reality and therefore less threatening.

When you tell stories, be sure to make eye contact with students. They will enjoy it if you use different voices for different characters and vary the volume and tone of your voice by whispering or shouting at appropriate times, for example. Practise the key events of the story so that you can tell it orally, without a book, in your own words. You can bring in props such as objects or clothes to bring the story to life in the classroom. When you introduce a story, be sure to explain its purpose and alert students to what they might learn. You may need to introduce key vocabulary or alert them to the concepts that underpin the story. You may also consider bringing a traditional storyteller into school, but remember to ensure that what is to be learnt is clear to both the storyteller and the students.

Storytelling can prompt a number of student activities beyond listening. Students can be asked to note down all the colours mentioned in the story, draw pictures, recall key events, generate dialogue or change the ending. They can be divided into groups and given pictures or props to retell the story from another perspective. By analysing a story, students can be asked to identify fact from fiction, debate scientific explanations for phenomena or solve mathematical problems.

Asking the students to devise their own stories is a very powerful tool. If you give them structure, content and language to work within, the students can tell their own stories, even about quite difficult ideas in

maths and science. In effect they are playing with ideas, exploring meaning and making the abstract understandable through the metaphor of their stories.

Songs

The use of songs and music in the classroom may allow different students to contribute, succeed and excel. Singing together has a bonding effect and can help to make all students feel included because individual performance is not in focus. The rhyme and rhythm in songs makes them easy to remember and helps language and speech development.

You may not be a confident singer yourself, but you are sure to have good singers in the class that you can call on to help you. You can use movement and gestures to enliven the song and help to convey meaning. You can use songs you know and change the words to fit your purpose. Songs are also a useful way to memorise and retain information – even formulas and lists can be put into a song or poem format. Your students might be quite inventive at generating songs or chants for revision purposes.

Role play

Role play is when students have a role to play and, during a small scenario, they speak and act in that role, adopting the behaviours and motives of the character they are playing. No script is provided but it is important that students are given enough information by the teacher to be able to assume the role. The students enacting the roles should also be encouraged to express their thoughts and feelings spontaneously.

Role play has a number of advantages, because it:

- explores real-life situations to develop understandings of other people's feelings
- promotes development of decision making skills
- actively engages students in learning and enables all students to make a contribution
- promotes a higher level of thinking.

Role play can help younger students develop confidence to speak in different social situations, for example, pretending to shop in a store, provide tourists with directions to a local monument or purchase a ticket. You can set up simple scenes with a few props and signs, such as 'Café', 'Doctor's Surgery' or 'Garage'. Ask your students, 'Who works here?', 'What do they say?' and 'What do we ask them?', and encourage them to interact in role these areas, observing their language use.

Role play can develop older students' life skills. For example, in class, you may be exploring how to resolve conflict. Rather than use an actual incident from your school or your community, you can describe a similar but detached scenario that exposes the same issues. Assign students to roles or ask them to choose one for themselves. You may give them planning time or just ask them to role play immediately. The role play can be performed to the class, or students could work in small groups so that no group is being watched. Note that the purpose of this activity is the experience of role playing and what it exposes; you are not looking for polished performances or Bollywood actor awards.

It is also possible to use role play in science and maths. Students can model the behaviours of atoms, taking on characteristics of particles in their interactions with each other or changing their behaviours to show the impact of heat or light. In maths, students can role play angles and shapes to discover their qualities and combinations.

Drama

Using drama in the classroom is a good strategy to motivate most students. Drama develops skills and confidence, and can also be used to assess what your students understand about a topic. A drama about students' understanding of how the brain works could use pretend telephones to show how messages go from the brain to the ears, eyes, nose, hands and mouth, and back again. Or a short, fun drama on the terrible consequences of forgetting how to subtract numbers could fix the correct methods in young students' minds.

Drama often builds towards a performance to the rest of the class, the school or to the parents and the local community. This goal will give students something to work towards and motivate them. The whole class should be involved in the creative process of producing a drama. It is important that differences in confidence levels are considered. Not everyone has to be an actor; students can contribute in other ways (organising, costumes, props, stage hands) that may relate more closely to their talents and personality.

It is important to consider why you are using drama to help your students learn. Is it to develop language (e.g. asking and answering questions), subject knowledge (e.g. environmental impact of mining), or to build specific skills (e.g. team work)? Be careful not to let the learning purpose of drama be lost in the goal of the performance.

Additional resources

- A professional development unit for teachers about using puppets with students: http://www.pstt.org.uk/ext/cpd/engagement-with-puppets/
- The Kaavad storytelling tradition of Rajasthan: http://www.idc.iitb.ac.in/resources/dt-july-2009/kaavad.pdf
- *Best Practice Guidelines for Teaching Environmental Studies in Maldivian Primary Schools* by Fathimath Shafeega, Mausooma Jaleel and Mariyam Shazna: http://www.livelearn.org/sites/default/files/docs/BstPracGuidelines.pdf
- 'The people who hugged the trees: an environmental folk tale' by Deborah Lee Rose: http://mocha4you.ibda3.org/t38-topic

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Resource 2: 'Growth of a Tree' by Meish Goldish.

Figure R4.1A adapted from © Felix Reiman http://commons.wikimedia.org/wiki/File:Zamenis_longissimus.jpg, made available under http://creativecommons.org/licenses/by-sa/3.0/deed.en.

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