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ABSTRACT

This study explores the infusion of environmental education through the multidisciplinary approach using mythological stories aimed at the secondary level. Secondary teacher trainees (N=98) planned the lessons based on school subjects. Mythological stories from various religions were used by the trainees as the basis for the lessons and the lessons were then presented under simulated conditions. Findings highlight the difficulty of correlating the components of mythology through mathematics as well as the adaptability of Hindu mythology for this purpose. Benefits to participants included a broader knowledge of mythology and a greater appreciation of cultural heritage. (DDR)

Infusion of Environmental Education through Mythology-- An Experiment

by
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Infusion of Environmental Education Through Mythology – An Experiment

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About 2 million years ago, when mankind changed from a hunter-gatherer who lived in the wilderness systems such as forests and grasslands into an agriculturalist, he began to change the environment to suit his requirements. His ability to grow food and breed domestic animals led to a change of the 'natural systems' into 'productive' ones.

The natural resources of an eco-system form a capital that needs to be maintained in order that the 'interest' accrued could be used sustainably over a period of time. However, the needs of a huge number of human beings could not be supported by these productive natural resources. Increasing extraction of resources beyond a critical level depleted the 'capital' and has been found to affect the quality of life. In order to bring about the change we must be the catalysts. 'No Man is an Island'. The damage caused to the environment in one corner of the world has its repercussions elsewhere. The phenomenon of acid rain is a case in point. The responsibility for the global environment thus lies with each and every individual. Therefore, one has to think globally and act locally.

Man is more than a biological being. A civilized man requires more things for his comfort and safety than any other organism. Therefore, he has developed the socio-cultural environment in addition to the natural environment. In view of this, man's environment comprises the natural as well as socio-cultural aspects.

Natural Environment

Natural environment consists of physical or abiotic factors and the biological or biotic factors.

Socio-cultural Environment

Socio-cultural environment is developed by man through his skills and the various social institutions. This environment, although man-made, differs from the other man-made paraphernalia like bridges, roads, cities, transport, etc. The socio-cultural environment comprises:

1. *Family, marriage and kinship*
2. *Religion*
3. *Economy*
4. *Polity*
5. *History*
6. *Art and aesthetics*
7. *Entertainment*

Before the changed environment can alter or affect the very nature of man's existence, the destruction of the environment is to be halted. To quote Churchill "We shape our dwellings and then our dwellings shape us". The most effective way of spreading this message is through the medium of education. The cause of environmental education therefore, has to be taken up with a crusading spirit and a missionary zeal.

Environmental education should view the environment in its totality – natural and socio-cultural. It should focus on current and potential environmental situations while taking into consideration the historical perspective. This education should become an integral part of the life-long process beginning at pre-school level and continuing through formal and non-formal stages.

In view of this, the integration of environmental education becomes a matter of prime importance for teacher trainees.

Integration of the environmental education through the school subjects helps the students to acquire the knowledge as an integral whole that may help to perceive the environment, both natural and man-made,

with respect to the physical, biological, social, economic, political and cultural aspects.

Background

Documented environmental awareness in India, dates back to the 14th century, in Rajasthan. The home of mighty Rajputs. The Bishnois are a small tribe in Rajasthan, who practice a religion of environmental conservation. They believe that cutting a tree or killing an animal or bird is blasphemy. Their religion, an off-shoot of Hinduism, was founded by Guru Maharaj Jambhaji, who was born in 1451. He gave 29 injunctions: principal among them being a ban on the cutting of green trees and killing of an animal or bird.

In the 17th century, during Emperor Aurangzeb's time, a king of Jodhpur, wanted to build a new palace. He sent soldiers to the Bishnoi area where the trees were in abundance. The soldiers wanted to cut the trees for some fire wood. The women protested but the soldiers paid no heed. The Bishnois led by a woman hugged the trees in order to protect them. 294 men and 69 women were axed to death. When the king heard of this massacre he stopped the operation and offered protection to the Bishnois. The sacrifice of the Bishnois was the inspiration for the 'Chipko Movement'.

In March 1973, in the town of Gopeshwar in Chamoli district of Uttar Pradesh, villagers formed a human chain and hugged the ear marked trees to keep them from being felled for a nearby factory producing sports equipment. The genesis of 'Chipko movement' is not only in the ecological, or economic background but, in religious belief. These people believed that each tree has a 'Vrikshadevta' [tree god], and the deity 'Vandevi' will protect their family. They also believe that each green tree is the abode of Almighty God 'Hari'.

Hindus revere the pipal tree, *Ficus religiosa*. The Buddhists worship it as the *'Bodh'* tree. To fell it is considered a sin. Like the pipal, the banyan, is also considered holy by the Hindus. When both these trees are planted along with the third tree 'pakar'- *Ficus infectoria*, the group is known as 'Harshankari' - the abode of Lord Shiva and Hari. Also, these trees are associated with 'Vrikshadevta' – the goddess of trees. These trees are huge and shady and nest hundreds of birds. They are also known to give out considerably more oxygen than the other smaller trees.

Lord Buddha once told his disciples a story about a 'sal' tree. The story goes thus: Long ago Brahmadutta, the king of Kashi, wanted to build a great palace for himself. A palace whose roof is supported by a single beam/column. He ordered his architects to search through the forest for a tree that could be shaped into this mighty axis. These king's men found a 'sal' tree in the royal park. This tree had taken root long before Brahmadatta's ancestors had come to rule Kashi. The king commanded his men to cut down the tree. The heart of the ancient god who lived in the tree grew heavy with sorrow. He appeared before the king in his dream. The pleas of the tree god fell on deaf years. Then the spirit of the tree requested, 'If you must destroy me, hack off my crown first, then hew at my trunk and finally rip me off the earth-harbor by the roots'.

The king was amazed by the spirit's request. He asked why he had chosen to suffer the agonies of amputation in stages. The spirit replied, 'My weight would crash down upon the young 'sal' trees that have a long life ahead of them. The birds that have made these trees their abode would lose their nests and their young ones.' The king realized his mistake and swore again, never to cut down a tree for his pleasure.

Indo-Aryans lived in perfect harmony with nature and worshipped forces of nature like *Agni, Vayu, Prithvi, Akash* and *Varun* [fire, wind,

Earth, Sky and Rain], which they referred to as the *'panch mahabhootas'*. Both in the pre-vedic and vedic periods, the Aryans sang hymns in praise of nature.

Since, the ancient Indian economy was agrarian, it is not surprising that the Indian peasant considered the 'naga' - the serpent - as the 'guardian of the field' or the *Kshetrapala*. On the other hand, when the seasonal rains flush them out of their burrows, they can be a deadly threat to human beings. This is perhaps why *Nagapanchami* is celebrated on the fifth day of Shravan when Hindu women propitiate the cobra with offerings.

Noah was asked by God to prepare a boat and take with him all his sons and their wives along with the male and female species of all living things clearly indicating emphasis on the interdependence of the species.

Prophet Ibrahim was asked by God to leave his wife Hajra and infant son in the desert of Mecca. The infant son was thirsty and kept rubbing his heels on the desert sand. This led to the formation of a spring of water. Hajra fenced the pool of water with stones and ordered the fountain to stop overflowing. This pool called 'Zam-Zam' still supplies water to the holy city of Mecca – an excellent example of conservation of water in the arid desert zone.

Need for Infusion through Mytholgy

The mythological stories abound in such instances if one were to look through them carefully. The word myth is derived from the Greek word *muthos,* which has a range of meanings from word through saying and story to fiction. 'Myth' has existed in every society. It is a basic constituent of human culture. Mythology is a part of the study of religion and every myth fits in the total structure of the life of the society that believes in it. The myth in turn motivates the people to perform certain

special ceremonies daily or annually as their lives move through the cycle of the seasons.

Infusing the environmental studies through mythology would lead to a critical thinking *vis-a-vis* the relevance of mythological stories in the present context. This integrated approach would also create, a scientific attitude among the students, as well as an interest in the cultural heritage of the nation. One sure way to infuse the objectives mentioned earlier among the student population is to train the future teachers along these lines.

Training of teachers in this area of environmental education would deal with all the three domains – cognitive, affective and psycho motor – and link the present with both the past and the future.

The concept of environmental education through mythological stories can be schematically represented in figure 1.

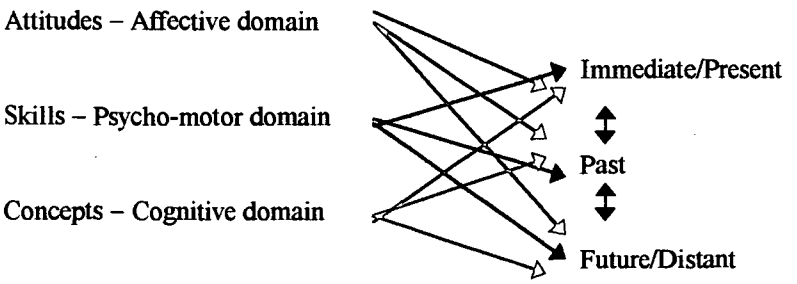

Figure 1

Schematic Representation of Learning For, About and Through the Environment

Aims of Teaching Environmental Education through Mythology

General aims of environmental education through mythology would be :

1. To educate the students on matters and issues relating to the environment.

2. To create an awareness about the environment which is changing at a pace that is becoming dangerous for the health and the very survival of humanity. This growing awareness should create a sense of concern leading to commitment and action.
3. To create an awareness about the relevance of mythology in the present context.

Methodology

Environmental education was infused through the multidisciplinary approach using mythological stories mainly at the secondary level. Secondary teacher trainees [N=98, 1996-97 batch] planned the lessons based on school subjects [ranging from grades V to X]. Mythological stories from various religions were used by the teacher trainees to give the lessons. The lessons were given under simulated conditions and were of a shorter duration (10 to 15 minutes). The simulated lessons were planned for two reasons.

- All the lessons would not lend themselves to be taught through mythology.
- Lessons, which can be used to teach through mythology, may not be available to all the teacher trainees from the practice teaching schools during the practice teaching sessions. In such cases, some of the students may not get an exposure to the technique.

Since these lessons were of a shorter duration, all the objectives that could have been taken in a lesson of regular duration could not be included in the lesson plan.

The lessons given by the students were tabulated under the following categories in table1: aspects of environment covered – physical or socio-cultural environment, subject of the lesson and source of mythology.

TABLE 1
Categories of Simulated Lessons

Subject	*Envt. aspect*	*1*	*2*	*3*	*4*	*Total*	*Sum total*
Science	Natural	33	4	1	1	39	
	Socio-cultural	-	-	-	-	-	39
History	Natural	4	-	-	-	4	
	Socio-cultural	24	-	-	-	24	28
Geography	Natural	22	-	1	-	23	
	Socio-cultural	1	-	-	-	1	24
Language	Natural	3	-	1	-	4	
	Socio-cultural	2	-	1	-	3	7
Total		89	4	4	1		98

1- Hindu mythology 2 - Mythology from Christianity 3 - Mythology from Buddhism 4 - Mythology from Islam

From table 1, it appears that more number of lessons were given on the natural environment than on the socio-cultural environment. The history lessons were mostly based on the socio-cultural component. All the science lessons and almost all geography lessons were based on the natural environment. The Language lessons, though very few, were divided between the natural and the socio-cultural component.

A large number of lessons were from the Hindu mythology.

Observation

The students found it difficult to correlate the components of mythology through mathematics. Therefore, no lessons were given in the subject of mathematics using this technique by the student trainees. Some of the myths were such that they could be used in different subjects in different contexts. For instance, in Mahabharata, after having lost the kingdom in a game of dice, the Pandavas were exiled for 12 years. Arjuna went to the heaven to acquire the *Divya astras* – weapons from the gods - to be used in warfare against Duryodhana. When he returned, the Pandavas were curious to know the strength of the *astras* and requested Arjuna to demonstrate their use. But, just as he was about to use one of the *astras*, the devas stopped him. They said the use of such a powerful weapon, just for exhibition or fun, was strictly prohibited. The forest reserves could not be targeted for some casual experimentation.

This mythlogy can be effectively used to integrate the need to use nuclear energy for peaceful purposes in Science as well as History. It can also be used in the teaching of Forest wealth under Geography.

This innovative practice, implemented at our institution was not without the initial teething problems. The co-teacher educators had to be convinced before student teachers could be exposed to the infusion.

The knowledge of mythology among the student teachers was found to be abysmal. Several of them had to be oriented to identify the difference between mythology and folklore. To overcome this hurdle, the college bought some books on mythology and made the students read them. This exposure of giving lessons made the trainee teachers not only understand the Indian culture through mythology but created an insight into the rich cultural heritage and the sound principles of it. It was a matter of interest to see that the students gave lessons based on mythologies from religions other than their own. They developed a sense of critical appreciation. They felt they would be able to successfully implement this technique in schools if given an opportunity by the heads of the institutions.

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