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CONTENTS

EDITOR'S NOTE

The National Focus Group on Teaching of Science (NCERT, 2005) observes a huge gap in the education in general and science education in particular between the rural and urban students. The inequality, among other things may be mainly due to poor infrastructure, inadequate support systems, lack of access to information and other resources in rural areas, and a clean urban bias in various educational inputs. The focus group points out that in terms of content rural life styles need to be reflected in the curriculum, which can be done very effectively in contextualised curricula. In the present issue, our three contributors viz., Arvind Gupta, Shashi Prabha and K. Abdul Gafoor and Smitha Narayan take up the issue of science education in Indian schools and deliberate upon it through their writings.

No doubt, for so long India has been making efforts towards achieving the goal of quality education, yet there is a need to understand the deep meaning of quality. The recent curriculum reform process in India provided another dimension to quality by redefining it. As per the *National Curriculum Framework 2005*, "Quality is not merely a measure of efficiency; it also has a value dimension. The attempts to improve quality of education will succeed only if it goes hand-in-hand with stepts to promote equality and social justice." In this issue, articles related to this very concern are contributed by Ramakar Raizada, Najmah Peerzada, Neeru Snehi, and Rashmi Choudhuri. These articles open doors for thinking and reflection on quality in education with a changed perspective. Two more research papers are included in this issue; one by E. Arumuga Gandhi and the other by Lalit Kumar and Sudhir Kumar which also deal with quality but with respect to higher education. Further, in this very series, an article by Manju Singh deals with techniques and strategies of providing quality language education in schools and other articles by Rama Maikhuri and Roop N. Kabra focusses on orienting rural teachers with a purpose to provide quality education to women and children of rural areas.

The issue also carries an article related to history of Missionary's education in Assam written by Ali Ahmad and Sayeedul Haque; and a Book Review by Aakanksha Agarwal.

Academic Editor
JIE

Science Through Activities*

ARVIND GUPTA

Abstract

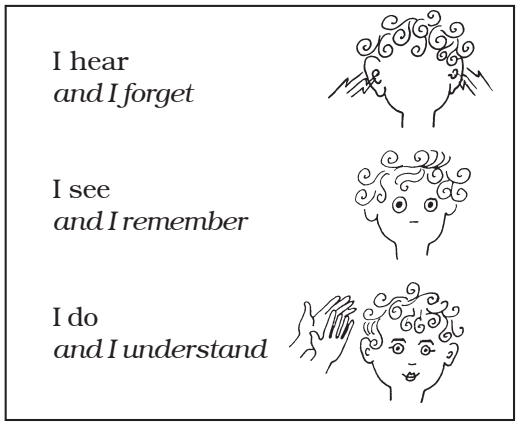
The search for teaching science meaningfully to rural children has been a very challenging task for educators. Many attempts have been made in the past and there are several lessons to be learnt from them. Some, like the Hoshangabad Science Teaching Programme (HSTP) worked in over a 1000 village schools for over two decades. The HSTP unleashed the creativity of thousands of children and teachers, but was ultimately shut down by the State government. Every innovation leaves behind seeds for future innovation.

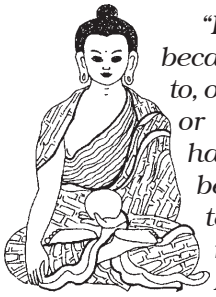
Is the chalk-talk method best suited to teach science? Is the ability to regurgitate a few definitions an indicator of comprehension? Isn't expensive glassware and sophisticated plastic equipment in a typical school science laboratory a little out of sync with the lives of ordinary village children? Shouldn't the learning of science be made more contextual – something which a child can relate to with her everyday experiences?

How do children learn science? Perhaps science is learnt best when it goes beyond the four walls of the classroom and addresses the concerns and problems of the larger community. Then science becomes alive and vibrant. Also the use of local materials for making simple science models helps children assimilate them better.

Apart from outlining tried and tested field experiments the talk will be interspersed with practical and fascinating demonstrations.

Science Through Activities





"Believe nothing, merely because you have been told to, or because it is traditional, or because you yourself have imagined it. Do not believe what your teacher tells you... merely out of respect for the teacher. But whenever after due examination and analysis you find conducive to the good, and benefit the welfare of all beings, that doctrine believe and cling to and take it as your goal."

– Buddha

* *Text reproduced from NCERT Memorial Lecture Series published by NCERT, on a lecture delivered during the Mahadevi Verma Third Memorial Lecture on 11 February 2010 by Arvind Gupta.* *Arvind Gupta is working at the Muktangan Children's Science Centre at the Inter-University Centre for Astronomy and Astrophysics in Pune.*

Everything has a History

In most schools science is still learnt by rote. Children mug up definitions and formula and spit them out in the exam. This is certainly not a good way to learn science. Science is perhaps a unique subject. The uniqueness stems from the fact that many of its postulates can be tested and verified by practical experiments. Most other subjects can be learned with ordinary tools—such as pencil, paper, blackboard, textbooks and a few supplementary aids. These are also essential for the teaching of science but, if they are the only tools, science becomes a dull and an uninteresting subject. This uniqueness results from the variety of materials and experiments necessary for its effective teaching.

If it is to be learned effectively science must be experienced. It must be learned and not learned about.

The Philosophy

Ann Sayre Wiseman, creative director of the Children's Museum in Boston and the author of the landmark book, *Making Things*, summed up the essence of good science in these words:

It's OK to fail.
It's OK to make mistakes.
You will learn a lot from them.
It's OK to take risks.
It's OK to take your time.
It's OK to find your own pace.
It's OK to try it your own way.
It's Ok to fail.
You can always try again free of fear.
It's OK to look foolish.
It's OK to be different.
It's OK to wait until you are ready.
It's OK to experiment (in safety).
It's OK to question the "shoulds".
It's special to be you.
It is necessary to make a mess
Which you are willing to clean up.
(The act of creation is often messy)

Gleam in the Eye

Children are naturally curious and have an innate desire to learn. Children also have a tremendous power to concentrate. If they are interested in a particular thing they put their heart and soul into it. They want to know it. They have a tremendous desire to understand how it works. Children learn a great deal without being taught.

Maria Montessori demonstrated this over a hundred years ago. She was Italy's first woman doctor. After getting her medical degree, Montessori started working with the children of slum dwellers. Montessori is famous the world over for her deep pedagogical insights. She had designed hundreds of teaching-aids for children. Several of them are still in active use, for instance, the post-box. This is a hollow wooden cubical box. On each surface of the box there is a cut-

out of a particular geometrical shape — a circle, triangle, square, etc. There are corresponding wooden blocks which have to be posted in the respective slots. A wooden ball, for instance, would go into the circular hole and a prism in a triangular slot.

There was an elderly priest who was very interested in Montessori's work. He would drop-by on a Sunday to see the various experiments, which Montessori was doing with the children. One day, Montessori took the priest to one corner of the class, where a little girl, was playing with the post-box. The little girl was deeply absorbed in her work. Montessori asked the other children to encircle the little girl and to sing a song aloud so as to disturb her concentration. But the little girl was so absorbed in her work—in trying to figure out which block will go into which slot that she did not even look up.

After some time Montessori lifted the little girl and seated her on a table. As soon as the little girl got her berth she once again got absorbed in trying to figure-out the block which will go into a particular slot. She was totally lost in her own world.

The priest—a good old Samaritan, often used to bring some toffees and chocolates for the children. On that day he had got a big box of biscuits. He started distributing biscuits to the children. He also gave the little girl a biscuit. The little girl reluctantly took the biscuit. She intently looked at it. She saw that the biscuit was rectangular in shape. So, she posted the biscuit in the rectangular slot of the post-box. Children do not learn through bribes. They learn because they want to understand the world. Mark sheets, certificates, medals and prizes are bad substitutes for the real joy of knowing the world.

The Beginning

Several pioneering experiments were done in India prior to Independence to make the learning of science contextual and interesting. One such well documented experiment took place in Himachal Pradesh in the 1920s.

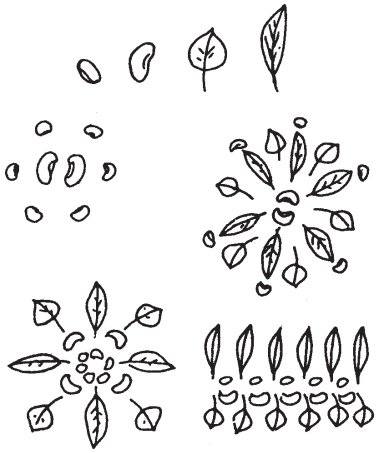
Satyanand Stokes was an American who came to India in 1910. He pioneered the plantation and propagation of apples in Himachal Pradesh. Being a philanthropist, he also set up a school in Kotgarh for the local children. In 1920, the American economist Richard Greggs—deeply inspired by Gandhiji—came to work in India. For two years, Greggs taught activity based science to children in Stoke's school at Kotgarh. Based on his real life experiences with Indian children, he wrote a book titled *Preparation for Science* in 1928. This book was first printed by *Navjivan Prakashan* from Ahmedabad. This remains the most pioneering treatise on how science should be taught to children in Indian schools.

Greggs wrote:

> *The apparatus required is exceedingly simple and inexpensive, and almost all of it is familiar to village children. Most of it can be made by village carpenters, potters or blacksmiths. The children must not get an idea that science is machinery or strange technology. The great pioneers of science did their work with very simple apparatus. It is possible, therefore, to follow their footsteps and learn to do scientific thinking without much expensive or elaborate apparatus. After all, the student's mind is the most expensive piece of apparatus involved.*

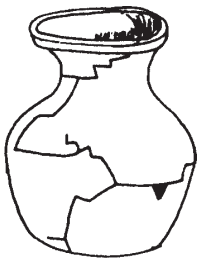
Greggs further commented:

> *I do not want Indian children in villages to get the idea that science is only a school affair or only relates to shiny brass and glass devices and paraphernalia. I believe they can learn to think more clearly and to acquire a scientific attitude without all the expensive and complicated apparatus used in western laboratories, or at least with extremely little of it.*



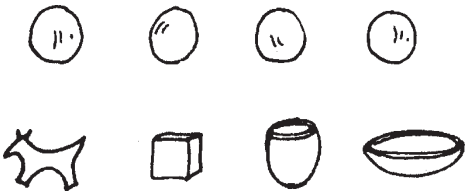
As has often happened in the history of science, the prophetic book written in 1928 remained buried until Keith Warren, a UNICEF consultant rediscovered it in 1975, illustrated parts of it, and brought it out as *Preparation for Understanding.*

This book helps children to discover an order in the world around them. Children are inspired to seek out patterns using pebbles, twigs, leaves, wire, seeds and other natural materials – stuff which is free and doesn't cost any money. Children who don't have paper or pencil could draw patterns on the ground with a stick. They could arrange leaves and seeds to make several *rangoli*-like patterns.



Pieces of a broken earthen pot could be joined with wet clay to create a whole. This is akin to solving a 3-D jigsaw-puzzle.

In another exercise, a child takes four similar balls of clay. She then moulds each into a different shaped animal, a cube, a pot and a plate.



The child is then asked: Which one is heavier? Does the shape change the weight? Children pour out the same cupful of water in four different containers. Then they are asked, "Which vessel contains more water?"

The basic tenet of the book is : Before children can understand a thing, they need experience—seeing, touching, hearing, tasting, smelling, choosing, arranging, putting things together and taking things apart. Children need to experiment with real things.

This book is perhaps still the most relevant book on science activities for Indian village children. There is no plastic or glass apparatus—specialised science equipment to be bought. It shows that children learn best from simple things. And naturally it is most helpful for them to understand first those things that are around them in their daily lives.

It is best for two or three children to work together at these activities so that they can share materials and help each other. Thus they begin to learn cooperation.

Science is built from curiosity, experience, analysis, and finally the expression of discovery. The main part of this process is arranging objects, activities and ideas so as to create a new order or pattern. Science is the discovery of new patterns. These exercises will help children discover the patterns and arrangements of the world around them by using their hands, senses and minds. So, understanding is the discovery of order.

The Hindi edition of the book *Preparation for Understanding, Samajh Ke Liye Taiyari* is fortunately still being published by the National Book Trust.

Other Experiments

After independence a few initiatives were taken in India to make science more interesting. During its formative years the NCERT reprinted a few science activity books developed by an American University. They were even translated into Hindi. Though the experiments came from an alien milieu and were not very contextual to Indian needs it was still a progressive step—a leap from the chalk-and-talk method and rote learning practised in most Indian schools. The NCERT also started the magazine *School Science* in which many pioneering Indian scientists – Prof. D. N. Wadia and Prof. P. N. Maheshwari regularly contributed articles of a very high quality. The classic *Story of Stone* by Prof. D. N. Wadia first printed in this magazine needs to be republished as an independent illustrated book at the earliest. Some of the other science classics published by the NCERT were the *Akashdarshan Atlas* – written by G.R. Paranjpe – the first Indian Director of the Royal Institute of Science, Bombay. This atlas gave the Indian names of all the stars and constellations and so it made much more sense to an Indian student. Other good science books published by the NCERT were *Our Tree Neighbours* by Chakravarti Venkatesh and *What on Earth is Energy* by D. P. Sengupta.

There were other isolated experiments to improve the way science was taught in schools. In the late sixties Meera Parasnis experimented in the Campus School in IIT, Kanpur to make the learning of science more experiential. She wrote a series of five illustrated books titled *Science in Action* in the early

seventies. These books were brought out by Macmillan and paved the way for further experiments.

Sputnik Spurs Race for Science Supremacy

On 4 October, 1957, the Soviet Union successfully launched the Sputnik. Sputnik's launch changed everything. It had a worldwide effect on the way science was taught in schools. As a technical achievement, Sputnik caught the world's attention and the American public off-guard. That launch ushered in new political, military, technological, and scientific developments. The Sputnik shock shook the US and UK science establishment. Several new initiatives were taken to make science teaching more interesting.

In a unipolar world it is easy to forget the major role played by the Russians in popularising science in India. Many Russian science classics like Physics for Fun *(1905),* Fun with Astronomy *written by the father of Russian popular science Yakov Perelman (1882-1942) were available in English, Hindi, Marathi and other regional languages in small towns on the pavement for a very moderate price. Whereas the American books were expensive and only available in big towns, these beautifully illustrated Russian science books were available in* taluka towns *at a very affordable price. Many people of my generation owe their interest in science to the Russian popular science books.*

In 1905, for instance, Perelman demonstrated the use of standard coins – roubles and kopecks as standard weights. As these coins had been mint-made they had a standard weight and could be used by children as reference "weights". Despite this it is sad to see the chapter on WEIGHT in most Indian books starts not with coins (which are accessible to every child) but with a picture of a fractional weight box!

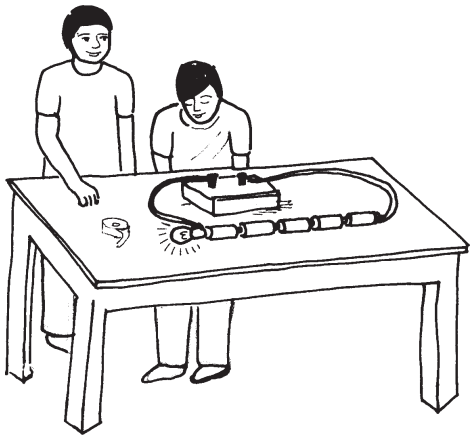
Nuffield Science

The Nuffield Science Programme in the UK in the early 60's based itself on the discovery approach. Children were not doled out readymade answers. Instead, they were encouraged to fend for themselves and to discover the answer themselves. Children learn a great deal by themselves. It is unfortunate that schools provide very little space for children to mess around and discover things for themselves. But whenever there is a pro-child atmosphere the results are simply electrifying.

This happened in a Nuffield Science classroom in England. The junior science students were given a lot of torch batteries, bulbs, wires, resistances, etc. to experiment with. The children were supposed to familiarise themselves with these components and learn to make simple circuits. After the children had played with them and learnt to make a rudimentary torch, etc. the teacher

decided to test their knowledge about these components and gave them a practical quiz.

She gave them four identical wooden boxes with only two terminals on their top. Inside the box, the two terminals were either connected to a battery, a bulb, a resistance or nothing at all (i.e., an open circuit). Children could only experiment by touching only the two terminals on the top of the box. They could only attach wires to these two terminals. They had to find out which box had which component hidden in its belly. It was fairly simple if there was just a battery hidden inside. The battery being an active element, if one just attached a bulb from outside it would glow. If there was an open circuit inside that was also easy to find out. But how does one find out whether it was a bulb or a resistance, hidden inside the box? It was a tough question and not at all easy to crack. If you connected a bulb and a battery from outside, in both cases the bulb would light up. Even the teacher, who had set up the quiz, did not have a clue to the answer.



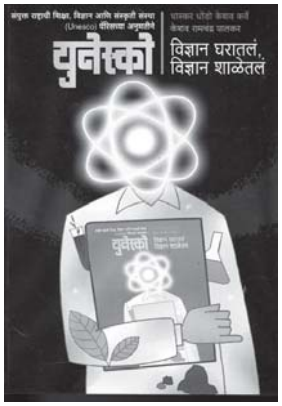
But a little boy found out the answer. When he connected a single battery and a bulb to the two terminals, his bulb lit up. As the glow of the bulb was a bit 'dim'—it meant that there was either a resistance or a bulb inside the box. Then he attached two batteries, and his bulb became a little bright. Then he just kept on adding more batteries and every time the glow of the bulb became brighter. But when he attached six batteries, the high voltage busted something inside and the circuit became open.

The little boy had found the answer because while playing he had fused two bulbs by connecting several batteries to them.

UNESCO Source Book for Science Teaching

Many nations were devastated during the Second World War. Later on, these countries built schools but had no money to set up science laboratories. At the behest of UNESCO, J.P. Stephenson, science master at the City of London School prepared a book on science activities titled *Suggestions for Science Teachers in Devastated Countries.* This fully illustrated book showed teachers how to make their own apparatus from simple, everyday materials at little cost.

The title of the book *Suggestions for Teachers in Devastated Countries* took the world by storm. It showed that expensive, fancy equipment were far removed from the lives of ordinary children – in fact very alienating. UNESCO agreed to widen and deepen the scope of the book and thus came out the famous *Unesco Source Book for Science Teaching* – which 50 years later still remains a bible for



science activities. In 1963 this book was translated in Hindi by Professor Gorakh Nath and published by the Publication Division. Its third and last edition appeared in 1981. But for over a quarter century this wonderful book has been out of print in Hindi. At about the same time this book was translated in Marathi by Bhaskar Dhondu Karve – son of the great social reformer Bharat Ratna Maharishi Karve. One lone edition of the Marathi edition was published by Orient Longman in 1963 and then the book was shelved. Recently the book has been republished by Manovikas Prakashan and has been hailed as the rebirth of a major classic. The *UNESCO Source Book for Science Teaching* must have been translated by inspired individuals in other Indian languages too. But given the apathy towards activity-based science learning these language editions too must have been long buried into obscurity. I wish that someone would digitise and upload them on the internet for posterity.

The *UNESCO Source Book for Science Teaching* periodically revised and updated, has been translated into many languages of the world, reprinted scores of times and has sold several million copies.

Good science teaching must be based on observation and experiment. There can be no substitute for these. But performing experiments and learning to make close observations require special facilities, and these are lacking in many parts of the world, especially in the elementary and middle schools of poor countries. As a result, science teaching suffers a severe handicap in these regions. It is often believed—though erroneously—that to introduce laboratory teaching, even at the elementary level, requires elaborate equipment made by commercial manufacturers. Such materials are prohibitively expensive for most schools and in many parts of the world are quite unobtainable because they are not manufactured locally and cannot be imported because of the prohibitive costs.

Hoshangabad Science Teaching Programme

The best Indian effort to revitalise school science education was certainly the Hoshangabad Science Teaching Programme (HSTP). Started in 1972, the HSTP eventually spread over 1000 government middle schools in 14 districts of Madhya Pradesh. Inspired by the Nuffield Science Experiment it was based on the discovery method where children performed simple experiments and then answered questions based on what they did. They were not "passive consumers" but "real constructors" of knowledge. There were no textbooks, only workbooks. The programme involved the active participation of teachers in designing the curriculum. It attracted many passionate and competent people. Professor Yashpal came as the first teacher trainer. It unleashed tremendous energy and creativity. The

task was not just to replace standard flasks with local glass bottles. The search was for local substitutes, low-cost, non-alienating materials, close to the cultural milieu of the child. This required an open mind and a critical outlook. Children dispensed "dissecting needles" in favour of "babool" thorns (see the illustration). Phenolphthalein – an indicator used for titration—was discovered in the well known brand of laxative "Vaculax". The tablet was mixed in a known quantity of water to make a wonderful "indicator".

A THORNY ISSUE

The Hoshangabad Science Teaching Programme (HSTP) emphasised on activity-based science learning. It was thought that the best way to learn science was by doing scientific experiments. There was a lot of emphasis on learning from the environment.

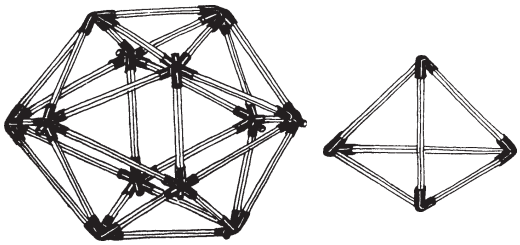
It was thought that the best way to learn about various types of plant roots was not by drawing pictures of taproots and fibrous roots on the blackboard but by actually stepping out of the classroom and studying these real plants in the field. For botanical observations the children were provided with hand lenses and dissecting needles.

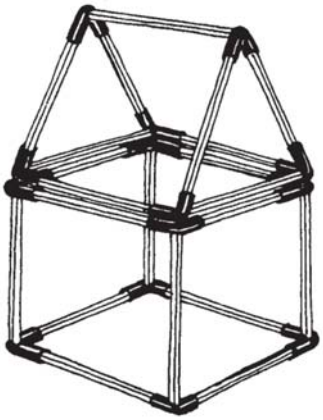
One day the children went on a field trip. They were to collect different wild flowers and dissect them. Soon the children were cutting the flowers and examining the stamens, pistils and ovaries. They were all using their dissecting needles to pry open the flower parts. But one girl had forgotten to bring her dissecting needle. What could she do? She was searching for something pointed and sharp to open up the flowers. And soon she found a lot of *Babool* (Acacia arabica) thorns. These thorns were strewn all around and worked as beautiful dissecting needles.

This little girl had taught the Science Programme a great lesson. Why use the standard dissecting needle—a long steel needle embedded in a plastic handle, when you can use a thorn for the job. The needle had to be bought from the nearby town, as it was not available in the village. The thorn on the other hand was free. Millions of those thorns were crying to be picked up right there in the village. The humble *Babool* thorn had become an important tool for scientific inquiry!

The HSTP inspired by the Nuffield philosophy of "learning by doing" had to reinvent all the hardware to suit local conditions. The idea was to critically look at local resources and find possibilities of doing innovative science using local, low-cost, easily accessible materials. The *Matchstick Mecanno* was used successfully to learn geometry and three-dimensional shapes. It used little bits of

cycle valve tubes and matchsticks to make an array of 3-D structures. Matchsticks were readily found at home and as bicycles had made inroads in all our villages cycle valve tube could be bought locally.





The HSTP slowly spread from just 16 schools in the district of Hoshangabad to more than 1000 schools in 14 districts of Madhya Pradesh. At its peak over one hundred thousand village children learnt science using appropriate teaching aids, where the emphasis was on comprehension and not rote learning. Especial testing methods and examinations were devised which tested the child's "understanding" and not his/her ability to mug and spit.

But despite its innovative features the HSTP was shut down by the Government of Madhya Pradesh in 2002. Today, when the government is welcoming corporate partnership in the education sector, the HSTP was hailed as the largest intervention in science education and a grand partnership between the government and an NGO. The government provided the infrastructure, money and, in turn, the NGO providing the passionate human inputs. But, despite the fact that the programme had succeeded in demonstrating a paradigm shift—from rote learning to understanding, it was shut down. It was a big blow for thinking people. Why was this relevant, appropriate, cost-effective, tried and tested programme shut down? The reasons soon became clear. No government whether of the left of the right wants any organisation (private or NGO) to intervene in education at the mass level. The government feels deeply threatened. As long as NGO's work in a few schools the state is happy. If there are more NGOs and more experiments the better for the state, because then the state can "showcase" and trumpet this "bouquet" of educational initiatives and can take legitimate credit for its liberal attitude for "letting a thousand flowers

bloom". But if the experiment is of a radical nature promoting the attitude of "questioning" everything and if the intervention is on a large scale then the ruling class becomes jittery and politically stalls and "kills" the initiative.

The HSTP unleashed the creativity of thousands of teachers and gave an opportunity to academics in some of India's best research institutes to contribute their bit to make the learning of science more interesting in village schools—where their help was most needed. Though the Hoshangabad Science Teaching Programme was shut down the experience conclusively demonstrated that good science education in our village schools could be made interesting and fun and relevant using very cost-effective methods. The HSTP has inspired scores of individuals who are trying to implement it in their own regions with variations and regional specificities.

Science Kits

Experience the world over has shown that prepackaged science kits seldom work. On several occasions multi-national organisations have appointed consultants and experts to design science kits for village schools. Then these kits are "mass" produced and distributed by a central authority to far flung village schools. This process is not unique to India alone. This is the experience of many developing countries. In most cases the kits lie unopened. As the teacher did not think of them, design them, assemble them so s(he) does not feel confident to use them. The kit could break when used. Who will bear the consequences? So the teacher simply keeps it locked.

But whenever teachers have been shown possibilities of making simple science models using everyday materials, readily available in their surroundings they have shown great enthusiasm. When they make things with their own hands they feel "empowered" and are more likely to use them in practice. If something breaks they can always repair it.

We live in a consumerist society which produces mountains of junk—cardboard cartons, ball pen refills, old pens, coins, broomsticks, newspapers, cycle tubes, matchboxes, tetrapaks, milk bags, ice-cream sticks, straws, etc. The list is endless. All this stuff can be recycled back into joyous science models and toys for children.

Recycle! Reuse! Reduce!

This ancient story carries a deep lesson about conservation in a consumerist society.

We buy, use and throw. Often we buy much more than we actually need. The whole consumerist culture is based on the principle: "Buy more! Throw more!" Today as we splurge—we plunder the earth's scare resources and produce so much junk that not only our garbage dumps but even our parks overflow with rubbish.

But has it always been like this? Have we Indians always been so profligate and wasteful? No. History tells us that Indians have been fairly austere. They have had a different way of looking at the material world. According to this viewpoint a thing can have several uses.

Not just one, but several lives. The concept of reuse/recycle has very deep roots in the Indian culture. This 5,000 year-old story shows a deep respect and sensitivity for the material world. It has many lessons for modern day environmentalists.

One day the great Buddha was taking a round of the monastery. He was approached by a monk who wanted a new woollen shawl *(angarkha)*.

Buddha asked him, "What happened to your old shawl?"

"It had become very old and worn out. So I am presently using it like a bed sheet," replied the monk.

Buddha asked again, "But what happened to your old bed sheet?"

"Master, that bed sheet got old with use. It was worn and torn. So I cut it up and made a pillow cover out of it," replied the monk.

"But there certainly was a pillow cover before you made a new one. What did you do to your old pillow cover?" asked the Buddha.

"My head had rubbed a million times against the old pillow cover and made a big hole in it. So I made a foot mat out of it," replied the monk in earnest.

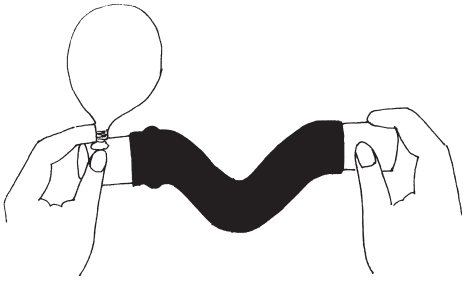
Buddha was not satisfied by this answer. He always delved deep into any issue. In the end he asked the monk, "Tell me what you did with your old door mat?"

The monk replied with folded hands, "Master the old door mat had got totally worn with use. Because of repeated use the warp and the weft had come out. So I took the cotton fibres and braided a wick out of them. Later I burned the cotton wick in the oil lamp."

Buddha smiled after listening to the monk. The monk got a new shawl.

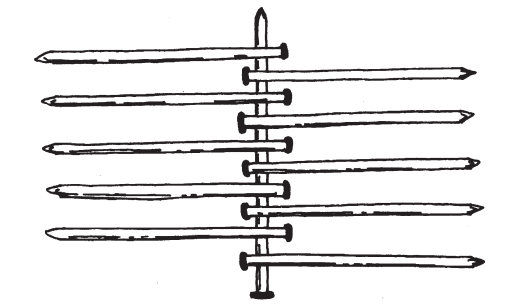
Toys and Trinkets

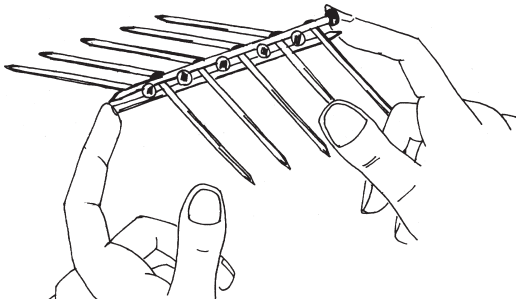
There are many examples of creating fairly sophisticated science models from junk. For instance, primary school children could make a wonderful hand pump with two film cans joined by a length of old cycle tube with flaps of sticky tape for "valves". This inexpensive pump can inflate a balloon and throw water 10 feet away!

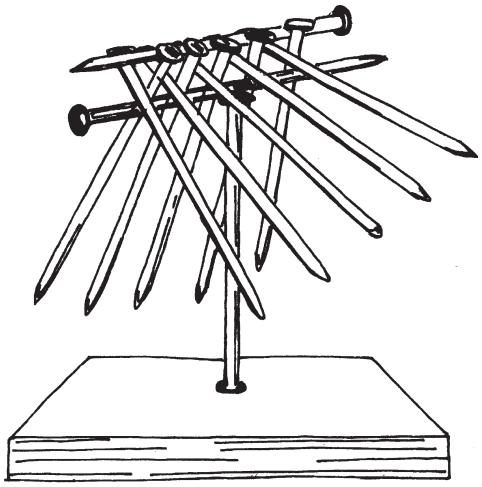


Another wonderful example is of trying to balance a dozen nails on the head of a vertical nail. This experiment does not require any specialised equipment—only nails and a piece of wood-materials which are amply available in the rural areas.

Toys have been used successfully to demonstrate principles of physics. Most inspiring physics teachers have their pet toys hidden away in drawers, cabinets and pant pockets. They include things like the dunking bird, gyroscopes, yo-yo's, a tippy-top, propeller on a notched stick, Newton's cradle, slinky and coupled pendulums. Most toys have an advantage over conventional demonstration equipment in their relatively low-cost and the fact that children relate well to them. Unfortunately most toys are not made for repeated use and that they are often no longer available when one looks for replacements!





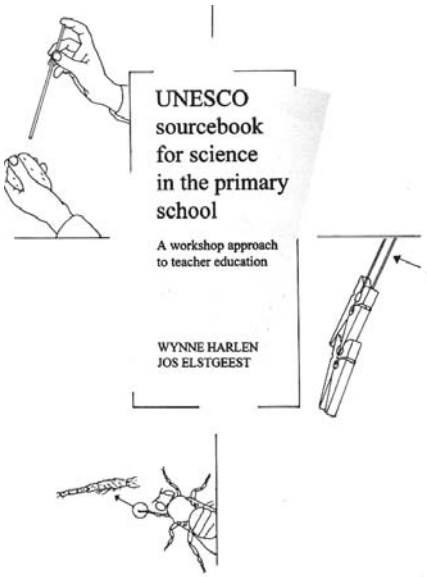


Children understand best when they see a science principle incorporated in a toy. If they can play with it, then they get a better "feel" for it. "Centrifugal" and "Centripetal" forces are abstract words and mean little to children. But a broomstick "spinner" can lend meaning to these words. A self-made toy acrobat which flays its hands and legs when spun can concretise this concept. A hundred such wonderful science toys have been collated in a book titled *The Joy of Making Indian Toys* by Sudarshan Khanna (published by the NBT and costing Rs 40 only). These toys have been there since ages. Every generation has enlarged this repertoire and left them behind in the public domain. These toys, made from 'throw away' stuff, are eco-friendly and the poorest children can enjoy them. In sculpting them, children learn to cut, trim, glue, fix and assemble together a variety of materials. They also learn great science.

The crisis of science is that people still do not want to dirty their hands. Rote learning, the chalk-and-talk method still reigns supreme. Everyone is out to "cover" the course, forgetting that the whole task of education is to "uncover" things.

Primary School Science

Over the years there has been a shift in thinking and schools are adopting more progressive measures. In many mainstream schools children in Class VII or VIII are taken to the laboratory where the teacher "demonstrates" certain experiments — how to make oxygen, etc. But still the children do not get a chance to do experiments with their own hands. Often the primary years are the most neglected phase where children seldom get a chance to mess around and do experiments.



The *UNESCO Source Book for Science in the Primary School*, authored by Winnie Harlen and Jos Elstgeest, was first published in the early 1990s. Its international edition was priced at US $20. Fortunately, the National Book Trust reprinted a low-cost Indian edition of this wonderful book priced at just Rs 95. This book has never been reviewed but it is still in the fourth reprint. This reposes our faith in ordinary teachers—a good book, reasonably priced, will sell well. The book has two parts: a theoretical section followed by four amazing science activity sections—Children and Water, Children and Balances, Children, Mirrors and Reflections and Children and the Environment. This book has already been translated and published in Hindi by the NBT. It will be wonderful if this book is published into other regional languages too.

Believing that science and the scientific method of problem-solving should play a significant role in any modern educational scheme, UNESCO offers this book in the hope that it will assist science teachers everywhere in their important work. The point of view taken is that science is most effectively taught and learned when both teacher and pupils practise the skills of problem-solving by engaging in group and individual study. The devising of experiments and the improvising of simple equipment for carrying them out should form no small part of such study. Thus, the present includes instructions for the making of many pieces of simple apparatus from materials usually found in almost any region. It also proposes a wide array of science experiments from which a teacher may select those most suitable for providing the observations upon which effective learning may be based.

In many parts of the world, science education occupies a comparatively insignificant place in primary-school education and unfortunately what actually happens in the classroom under the label of science is often totally inadequate. Teacher training both pre-service and in-service, is one of the keys to this problem. Starting from the premise that this training should be carried out in ways more closely related to the active methods which teachers are expected to use in their schools, this sourcebook provides a variety of materials for use in training workshops for primary-school teachers which can be used both in group-work and by individual teachers for independent study.

'The String and Sticky Tape Experiments' column was introduced in the magazine *The Physics Teacher* brought out by the American Association of Physics Teachers (AAPT), in the early 1980s. It showed experiments using the simplest, least expensive materials. The materials could be purchased at the nearest store – you did not need anything expensive – not even need a stopwatch. All you needed were common rubber bands, cello tape, styrofoam or paper cups, string, drinking straws, glass marbles, plastic ruler, coins, pencil, paper and scissors to perform a series of wonderful process-based experiments.

Conclusion

In the last few years there has been a silent revolution underway in terms of the quality of state textbooks. The NCERT has tapped the best talents in the country to revise and upgrade its textbooks. This is very significant. For most of our children the textbooks perhaps will be the only books they will ever read. So, making them world-class is a major achievement we all can be legitimately proud off. This is also true of the science textbooks. Today the NCERT textbooks set new benchmarks for the private sector publishers to emulate. The internet has been a great leveller too. There are many organisations working to make education and specially science education more interesting and relevant for our children. Some pioneering experiments like the Hoshangabad Science Teaching Programme might have been shut down for myopic political reasons, but they have left behind seeds for future innovations.

Characteristics of a Constructivist Classroom in the Context of Science Education

SHASHI PRABHA*

Abstract

A constructivist classroom of science exhibits some marked features that are different from a traditional classroom. National Curriculum Framework-2005 emphasises on an environment in the science classroom which is conducive for constructivist learning. The classroom environment is maintained in such a way that students actively participate in learning which involves inventing and constructing knowledge and new ideas. Teacher applies various approaches to teaching learning process in order to make her students inquisitive thinkers, who question, reason, reflect, make association with prior learning, imagine and think. In the present paper some characteristics of a constructivist classroom in the context of science education are discussed.

In a traditional classroom teacher transmits knowledge, students passively listen while their minds may be daydreaming. In a constructivist classroom teacher transacts the knowledge, students are actively involved, and their minds construct the knowledge. Constructivism sees learning as a dynamic and social process in which learners actively construct meaning from their experiences in connection with their prior understandings and the social setting (Driver, Asoko, CLeach, and et al., 1994). In the context of science teaching learning process, it is observed that students conceptualise science as making sense of the world around them and as a mean of discovering theories, laws, and principles associated with reality. The constructivist epistemology asserts that the only tools available to a knower are the senses. It is only through seeing, hearing, touching, smelling, and tasting that an individual interacts with the environment. The individual builds a picture of the world from the message from these senses only (Lorbach A. and Tobin,K.,1997). Therefore, constructivism asserts that knowledge resides

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in students and that knowledge cannot be transferred without any transformation from the head of a teacher to the heads of students. Students try to make sense of what is taught by trying to fit it with their previous experiences. Teacher seeks students' point of view in order to understand the formation of their concepts, not to validate their learning as in a traditional classroom.

Therefore teaching learning process is not only an arrangement of teaching strategies but setting of situations and environment in which learning process is recognised and supported. For this situation to be created for science teaching learning, a constructivist classroom has certain characteristics as discussed below.

A Constructivist Classroom is Child Centred

Constructivist classroom places a child in the centre position of the classroom. Ideas initiated by students are accepted and encouraged. Students' opinions are valued. The National Curriculum Framework-2005 brought out by the NCERT emphasising constructivist approach in classroom states "Teachers should also nurture their classroom spaces as places where children can ask questions freely" (p.82). NCF-2005 establishes the need to recognize the child as a natural learner, and knowledge as the outcome of the child's own activity. Students' experiences, their voices and their active participation are valued. Students are not ridiculed or rebuked for asking questions. They are allowed to ask questions, make mistakes and to correct those mistakes. They learn from the positive experiences of social set up of the classroom. Focus is given to what students are learning rather than what the teacher is teaching. They are involved in all the activities of classroom and at all stages of teaching learning processes. Understanding of scientific concepts becomes important to them than memorising them. Learning no longer remains like a treasure haunt to guess what is there in teachers mind but what thoughts are being generated in their own minds. Lindfors (1984) advises that how we teach should originate from how students learn.

Students' Prior Knowledge is Acknowledged and Valued

Students form some concepts pertaining to natural phenomena prior to their experiences in school. It might be correct or incorrect. Often the scientific interpretation of natural phenomena differs from the students' interpretation. During teaching learning process students construct meanings that fit with their experiences and expectations. This can lead them to construct meanings different from what was intended by a teacher. As a result students experience a cognitive conflict. They often resolve this conflict by separating school science from their own life experiences. In other words, students distinguish between scientific explanations and their "real world" explanations (Driver, 1989). For example, students imagine that matter is destroyed during burning; they think that constant motion requires a force to maintain it and electric current is used up in lighting a bulb

(Driver, R., et al.1994). Awareness and acknowledgement of students' prior knowledge are essential for teaching learning process in a constructivist classroom. Teacher needs to provide an encouraging environment in which students are comfortable with what is not yet known to them and feel at ease to share their ideas with their peers and teacher. She should ask open ended and probing questions in order to know their existing cognitive structures. It facilitates students to construct and reconstruct their knowledge relating it with their previous knowledge. In this regard the concept mapping can be a powerful tool to dismantle the naive ideas and prevent their enrooting which can also be a big hurdle in the process of assimilation of scientifically accurate concepts of reflection and refraction.

Students and Teacher are Interactive in a Constructivist Classroom

This is another feature of a constructivist classroom. Meaningful learning of science cannot take place by reading, listening to the teacher or memorising information from the textbooks. Belenky, Clinchy, & Tarule (1986) observe that constructivists distinguish didactic talk (where participants report experiences but no new understanding occurs) from real talk where an interaction between teacher and students creates an environment within which emerging ideas can grow. Learning takes place within a net of social relationships as teachers and pupils interact both formally and informally. Teacher creates interactive situations for understanding students' concepts and then refines or revises those concepts by asking questions, posing contradictions, engaging them in inquiries and/or encouraging research. Meaning of the words and the concepts not yet comprehended emerge after discussions of those activities. There is no domination of teacher and learning takes place in a collaborative environment and experiences. Collaborative teaching, group discussion, group work and assignment and project work are some of the essential elements of an interactive classroom. Teacher makes all possible efforts to make her classroom interactive. This interaction is multidirectional. Students interact with their peers as well as teacher.

'Others' are Important in Constructivist Classroom

Learning is restructuring the knowledge that students already have. For this, students must realize that their existing conceptions of the world need a change. Then they try to make sense out of the situations based on what is already known. Their existing knowledge is based on their experiences, i.e. their interaction with events, phenomena, objects or persons. Students learn science by observing those phenomenon and events and performing experiments and activities and interacting with others. As others are part of students' experiential world, those are important for constructing their knowledge. Interaction with others constrains their thinking; hence they make adaptation in their thinking to make new meaning of the world. Others are part of their

experiential world. Thus, "others" are important for constructing their knowledge (Gray, A., 1997).

Negotiation is Compulsory for Constructivist Teaching

Negotiation is an important element for constructivist classroom. It brings teacher and learner on a common platform. Boomer (1992) explains that when negotiating, it is important for the teacher to talk openly about how new information be learned and about various constraints such as curriculum and available time. He comments on the meaning of negotiating curriculum as deliberately planning to invite students to contribute and to modify the educational programme so that they will have real investment in terms of learning process and the outcomes. Students can negotiate themes that may require integration of different topics of science or even social sciences, literature or arts. Negotiation also involves selection of reference books from the provided piles of books in the classroom. Students may participate in the design of assignments and its evaluation too, although the teacher may fix the parameters. Negotiation in classroom also means providing opportunity to compare students' new experiences with previous one, discovering discrepancies between them and achieving equilibrium by resolving them. Here equilibrium implies that there will not be any curiosity with respect to their previous knowledge. It may take place during discussion and attentive listening to others, making meaning to it and comparing personal meaning. When a student understands how his peers are making sense of a point of view, it is then possible to discuss similarities and differences between the theories of peers within a group. Justifying one position over another and selecting those theories that are viable can lead to consensuses that are understood by those within a peer group. The process of learning should not stop at what has been learned in the negotiation of a class consensus. It is important that students learn to compare their knowledge constructed in class with knowledge constructed by the community of scientists. This process can involve accessing other learning resources such as books, videotapes, etc. By engaging in such a process students can realize that what is regarded as a viable theory depends on what is known at the time and the context in which the theory is to be applied. In this process they understand how to select the best theoretical formulation for use in a particular set of circumstances (Lorsbach, A., Torbin, K 1997). Cook (1992) explains why negotiating the curriculum is important. Students work harder and better and what they learn mean more to them if they are discovering their own ideas, asking their own questions and fighting hard to answer them for themselves. Out of negotiation comes a sense of ownership in students for the work they are doing. Therefore they become committed to learning. In a constructivist classroom the teacher trusts her students, offers them options and choices about learning, invites them to construction of their knowledge. Active involvement of students in their own learning as well

as in other actions such as doing activities and at the same time maintaining discipline is a vital reality of constructivist classroom. Regarding discipline NCF-2005 mentions "It is necessary to involve children themselves in evolving rules, so that they feel responsibility in ensuring that it is followed." (p.87)

Process Approach is Emphasised in Constructivist Classroom

Process approach in science is methods and techniques of learning science. In a constructivist classroom process approach is emphasised. A context is created within which students are able to explore new ideas and experiences (Langer and Applebee, 1987). Students are provided opportunities to perform and participate in various activities and experiments. Teacher may design simple or complex activities depending on the contexts and contents. She leads her students to the path of construction of knowledge and helps them to become inquisitive learners. They are encouraged to generate tentative hypotheses, singularise the hypotheses, making observations, collecting data, drawing conclusion, and communicating. They learn to handle and manipulate apparatus and materials. They make lively uses of their senses. They may reject some information and accept other observed information to arrive at correct conclusion on their own when teacher acts as a facilitator of learning. They learn to develop an orderliness and reasoning in their thinking. When they draw same conclusions from different sets of experimentations under similar conditions they generalize those conclusions and become equipped to apply them in new situations in their everyday lives. In this context they get chance to focus on their ideas and develop more complex thinking and reasoning skills as they participate in the discussion and defend their ideas. The processes of learning science become more important than the product of learning science. Students enjoy learning as they get ample opportunities to interact among them selves and their teacher and to explore the environment. They learn how to learn. At the same time they get familiarised with the process of process skills of science. Thus, from a constructivist perspective, science is not a search for truth. It is a process that assists us to make sense of our world. It is an active, social process of making sense of experiences, as opposed to what we now call "school science." Indeed, actively engaging students in science (we have all heard the call for "hands-on, minds-on science") is the goal of most science education reforms. Using constructivism as a referent can possibly assist in reaching that goal. From a constructivist perspective, learning science becomes more like the science that scientists do (Lorsbach, Tobin, 1997).

Management of the Classroom is Democratic

Democratic environment of the classroom facilitate constructive learning. Such environment emphasises shared responsibility in learning and decision-making. Students are directly

involved in all the activities of the classroom. Students on both extremes of learning levels are provided equal opportunities. Teacher in a constructivist classroom designs and manages her activities in such a way that students are eager and ready to exchange their ideas. They are not afraid of being ridiculed. Teacher encourages her students to ask and share the thought processes going on in their mind. She assures to her students that no question is silly one. Getting familiarised with students thought patterns help her to help students in constructing their knowledge. Relationship among students and teacher is also democratic and responsive. It stimulates interest in the subject matter and develops a sense of self-achievement in students. Rules are made flexible and teacher's focus is on students learning rather than on her own performance.

Students Learn from Whole to Part in a Constructivist Classroom

Teacher presents the curriculum holistically in a constructivist classroom, not in bits and pieces. She organises the instructional materials in conceptual clusters, or themes. For example, Energy, Air pollution, Greenhouse Effect, Global Warming, Measurements, etc. may be considered as themes expanding in the domain of different subjects. The boundaries between different subjects get softened in a constructivist classroom. Subjects are not treated as watertight compartments. Students' way of viewing world is emphasised. Instructions in the classroom are provided inter-relating many contents area at once. Students construct their knowledge by breaking the whole into parts and in this process they get equipped to apply their knowledge in everyday life situations. They understand relationship between science, technology and society. Emphasis is given on primary facts rather than on a set of disconnected discrete facts.

Power in a Constructivist Classroom is Shared

Empowering students to learn themselves is basic in constructivist philosophy. Teacher makes every effort to develop skills and abilities to become an autonomous learner. Calkins (1986) laments that in most classrooms we neither teach students to ask questions nor allow them to ask questions but only allow them to answer our questions. It is not realised that asking question is challenging and part of thinking and learning process. When some question pops up in their mind and they are encouraged to make a query, they develop a control over their thinking. Emphasis is given on students thinking rather than on their answers and memorization of facts. She allows them to make mistakes, as she understands that those mistakes are critical in learning. Students and teacher together, develop teaching aids and materials from locally available materials. Working with concrete objects they investigate the concept of science themselves. It helps them to think critically and gain confidence in problem solving abilities (Paulu & Martin, 1991). Concepts are not swallowed from prescribed texts like

capsules. Students enjoy their hands on experiences. Learning takes place naturally. It provides students the power to construct their knowledge. Teacher in a constructivist classroom keeps on exploring ways and means and situations of asking questions. She controls her class indirectly but involves her students directly in all the activities of the classroom. Contrary to the popular belief a constructivist classroom is highly organised (Gray, A.1997). Students are given a lot of choices in their activities, curriculum and behaviour, but within certain parameters. In such a classroom control comes from involving the students in responsibilities and not from imposing strict rules. Thus the teacher can focus on students learning.

Assessment is Interwoven with Teaching Learning Process

In traditional classroom, teachers assess students by paper-pencil test, grading assignments, worksheets and rating students' work as right and wrong answers. In contrast, in a constructivist classroom of science, assessment of students learning is done in the context of daily teaching. It is continuous and comprehensive. NCF-2005 suggests that maintaining a daily diary based on observation helps in continuous and comprehensive evaluation. Assessment is not considered as separate and patchwork, but interwoven in teaching learning process of a constructivist classroom. It is done in totality of learning experiences. Instruction itself is based on inquiry process. Providing plenty of spaces for interaction helps the teacher to diagnose faulty mental schema of her students. She obtains immediate feedback. These evidences of learning serve to guide the teacher in further lesson planning too, and may indicate the need for modification or change of strategies of teaching learning process. For example, if a teacher perceives clear evidence of some faulty cognitive structures, she can revisit the concept to enhance clearer understanding and accordingly she can plan learning experiences to take remedial measures. Not only scholastic but co-scholastic areas of students learning are also assessed. Process skills of science are assessed by making the students perform various activities and experiments and projects. Learning process is managed to be open ended and open to change by using suitable tools of assessment. Science teacher in a constructivist classroom embraces "alternative assessment" strategies also, in order to truly understand what students are thinking and to identify the steps they have taken to construct meaning out of their learning experiences. Alternative assessments strategies include teacher observations structured by checklists, interviews, rubrics (preconceived expectations of learning), concept maps, journals, performance assessment tasks, open-ended problems, drawings, and portfolios (Chiappeta, Koballa, & Collette, 1998). Novak and Gowin (1984), Novak (1991) also describe the use of concept mapping strategies in order to analyze and assess the changes that occur in students' cognitive structures as a result of instruction. Concept maps are particularly useful as alternative

assessments because they can be used to identify misconceptions held by a learner both prior to and after instruction (Roth, 1992). Asking to contribute one more alternative to multiple-choice questions, solving crosswords and puzzles, framing questions from given situations or paragraph, making labeled diagrams, etc. can be some other ways of alternative assessment. Position Paper NFG on Examination Reforms suggest open –book and on-demand examination for the reform in the present system (p.2). Alternative assessment complements the constructivist approach to teaching by providing ongoing assessment of learning and more accurate measure of students' actual understanding. Displays of attainment and progress by assessment enhance understanding of concepts of science, which can become jumping off points for further enrichment of the students' learning.

Lester & Onore (1990) propose that genuine learning comes not disregarding all prior learning but reassessing our existing belief about the world. Reflecting on one's teaching practices enable a teacher to transit from transmission to transaction mode of her classroom. She creates an environment in which she can challenge the beliefs and practices of a traditional classroom and become a facilitator and provider of experiences to her students in which they can construct their knowledge in a constructivist classroom.

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Out-of-school Science Experiences and Interest in Science of Upper Primary School Pupils of Kerala

K. Abdul Gafoor* and Smitha Narayan**

Abstract

This study explored out-of-school science experiences and interest in science of upper primary school pupils of Kerala. Data collection made use of Lickert-type scales on topics chosen from the Science curriculum and Science-related experiences that pupils indulge in their daily life. Percentage analysis revealed moderate extent of out-of-school science experiences and relatively high interest in science. Mean difference analysis showed that significant difference existed among pupils in the extent of out-of-school science experiences and interest in science based on gender, locality and type of management of school. The results indicate that in order to reduce disparity among pupils in opportunity to learn teachers need to know about what experiences pupils bring to classroom, monitoring interest should begin from primary classes itself to reduce transitional problems at later stages of study and policy makers and curriculum planners should cater to the special needs of girls as well as rural and aided school pupils.

Amidst the mounting evidences of decline in the interest of young people in pursuing science (report of ninth meeting of Global Science Forum , 2003) there is similar trend of decline in science interest in India also. National Science Survey (Shukla, 2005) has shown that interest in science as well as satisfaction with the quality of science teaching declined as the age increased. Surveys across the globe suggest that lack of interest in science is mainly due to science being less intrinsically motivating (Global Science Forum, 2003; National Science Survey, Shukla, 2005), nature of science being cut off from real world and its content being overloaded with matters unrelated to the life of students (Hill & Wheeler, 1991; Osborne & Collins, 2001). One way of making science relevant is to base science on experiences pupils are interested in and find applications in real life.

Model of experiential learning (Kolb, 1984) brings out the holistic nature of learning from experience. Experience addresses cognitive, affective and physical aspects of learner. Theory of

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experience (Dewey, 1938) further implies the significance of experience in learning. So knowing the experiences that children bring to classroom is important, as it is upon this base that teacher has to build up education of child.

Rationale of the Study

Recent studies on science interest in India demonstrate a shift away from science at the plus two and under-graduate levels (Patil, 2003; Shukla, 2005). As interest in science develops quite early in life (Gardner, 1975), decline in interest in science in later years of life can be tackled to a certain extent by providing all the factors conducive to the development of science interest from quite early years itself.

Exploration in the field of influence of out-of-school science experiences on interest in science is not substantial in India. Present study on out-of-school science experiences and interest in science of upper primary school pupils in Kerala attempts to find out whether the trend of declining interest in science is evident among upper primary pupils of the most literate state in India. Decline in the number of women choosing science (Global Science Forum, 2003), and, lesser number of women opting for scientific careers (Indian National Science Academy, 2004; cited in Bamji, 2004) raises concern about women's interest in science. Locality may be contributing to the difference in interest in science owing to widely differing conditions in quality of life. Hence it is significant to know the effect of gender and locality on out-of-school science experiences and interest in science. This study explores science-related activities that children themselves choose without any external suggestion and the resultant influence these activities have on interest in the topics that they learn in their science classes.

Objectives of the Study

The major objective of this study is to find out the extent of out-of-school science experiences and interest in science of upper primary school pupils and the influence of gender and locale on out-of-school science experiences and interest in science. Attempt is made to find out whether there is significant relationship between out-of-school science experiences and interest in science.

Methodology

The sample used is 1461 upper primary pupils selected from 14 schools of Kozhikode district in Kerala, using proportionate stratified random sampling technique giving due weightage to gender, locality of the school and type of management of the school. One class each was randomly selected from each of the three grades in the upper primary section.

Two tools–Scale of Out-of-school Science Experiences (SOSSE) and Scale of Interest in Science (SIS) (Gafoor & Smitha, 2008) were used.

SOSSE included 89 out-of-school science experiences with which pupils are familiar. SOSSE is modelled after the tool used in the project 'The Relevance of Science Education' conducted by Schreiner and Sjoberg (2004). The

experiences were chosen after an informal interview with children of the age group 10-14 years, from varying socio-economic and home backgrounds, to ensure that scale did not have items unfamiliar to pupils. Four categories of experiences, viz. Observation, Collection, Activity and Experimentation are included in the scale, with an increase in the level of involvement of children as they move from observation to experimentation. 'Observation' requires the pupil to show merely an inclination to attend carefully to surrounding phenomena while 'Collection' implies a tendency to respond and acquire the objects that have captured their attention. 'Activity' involves taking active participation in an event that satisfies them without being much aware of their implications whereas 'Experimentation' deals with the attempt on the part of the pupil to explore the underlying causes of a phenomenon. SOSSE consisted of items related to all three types of experiences, viz. direct, indirect and vicarious experiences (Kellert, 2002) from three fields of science, viz. Biology, Physics and Chemistry.

SIS included 63 topics selected after a thorough analysis of the contents in the science textbooks of standards III to VII. Topics included in the scale pertained to science and technology, space and the sky, human biology, plant and animal life, light and sound and dangerous aspects of science and technology.

The items in SOSSE and SIS were rated on a three-point Lickert scale indicating the frequency of experience and degree of interest respectively. For SOSSE, total score, scores on experiences in each subject area and scores on categories of experiences, viz. observation, collection, activity and experimentation in each subject area were obtained. For SIS, total scores and scores on each subject area were obtained. All these scores were converted to 2, in order to facilitate comparison among subject areas and categories.

Test-retest coefficient of correlation of SOSSE was 0.78 and that of SIS was 0.70. Split-half coefficients of correlation for the scale and the sub scales were calculated as further evidence of reliability: SOSSE (r=0.88), observation (r=0.75), collection (r=0.68), activity (r=0.70), experimentation (r=0.81), SIS (r=0.70), Interest in Biology (r=0.86), Interest in Physics (r=0.84), and Interest in Chemistry (r=0.86). The internal consistency was established by estimating the Cronbach's alpha coefficient of homogeneity for the scale and sub scales: SOSSE (r=0.93), observation (r=0.80), collection (r=0.73), activity (r=0.82), experimentation (r=0.81), SIS (r=0.95), Interest in Biology (r=0.88), Interest in Physics (r=0.87) and Interest in Chemistry (r=0.87). SIS has substantial positive correlation of 0.56 with the grades that pupils obtained in science. This positive substantial correlation can be taken as an index of concurrent validity of the scale.

Findings

Out-of-school science experiences was analysed at three levels–(1) total out-of-school science experiences, (2) out-of-school science experiences in the three fields of science, viz. biology, physics and chemistry and (3) four categories of out-

of-school science experiences in each field, viz. Observation, Collection, Activity and Experimentation. Interest in science was analysed in two levels–(1) total interest in science and (2) interest in the three fields of science, viz. biology, physics and chemistry.

Extent of out-of-school science experiences

Out-of-school science experience of upper primary pupils was found to be moderate in nature (M=1.27; Extent=63%) with pupils deriving comparatively more experience from biology (M=1.38; Extent=69%) than from physics (M=1.24; Extent=62%) and chemistry (M=1.22; Extent=61%). Pupils derived more biology experiences from collection (M=1.51; Extent=76%) and less from observation (M=1.22; Extent=61%). In the case of physics, observation (M=1.29; Extent=65%) contributed more to out-of-school experience and experimentation (M=1.15; Extent=57%) contributed the least. Similarly, in chemistry too pupils conducted more observation (M=1.35; Extent=65%) and less experimentation (M=1.01; Extent=51%).

Extent of interest in science

Upper primary pupils had relatively high interest in learning various topics in their science curriculum (M=1.50; Extent=75%) with biology (M=1.53; Extent=77%) Physics (M=1.53; Extent=77%) is comparatively more interesting than chemistry (M=1.49; Extent=75%).

Gender difference in out-of-school science experiences and interest in science

Table 1 presents gender-based comparison of out-of-school science experiences and out-of-school experiences in biology, physics and chemistry.

TABLE 1

Details of Test of Significance of Difference between Girls and Boys in Mean Scores of out-of-school science (OSSE), biology (OSBE), physics (OSPE) and chemistry (OSCE) related experiences

Variable	*Girls (N=653)*		*Boys (N=808)*		*t*
	M_1	SD_1	M_2	SD_2	
OSSE	1.27	0.25	1.30	0.25	-2.99**
OSBE	1.38	0.26	1.37	0.27	0.49
OSPE	1.21	0.30	1.27	0.29	-5.98**
OSCE	1.23	0.33	1.22	0.34	0.58

Note: **Significant at 0.01 level

Significant gender difference existed in the extent of out-of-school science experiences (CR = -2.99, p<.01) with boys having more experience than girls did (Table 1). Out-of-school physics experience was more for boys (CR = -5.98, p<.01) while the extent of out-of-school biology experiences (CR = 0.49, p>.05) and out-of-school chemistry experiences (CR = 0.11, p>.05), exhibits no gender difference.

Boys have significantly more experience in biology activity (M boys=1.31; M girls=1.26; % of difference = 2.5; CR = -2.56, p<.05), physics observation (M boys=1.31; M girls=1.26; % of difference = 2.5; CR = -2.67, p<.01), physics activity (M boys=1.30;

M girls=1.17; % of difference = 6.5; CR = -7.86, p<.01), physics experimentation (M boys=1.19; M girls=1.07; % of difference = 6; CR = -6.21, p<.01) and chemistry collection (M boys=1.25; M girls=1.11; % of difference = 7; CR = -4.70, p< 0.01). Girls had higher extent of biology collection (M girls=1.54; M boys=1.49; % of difference = 2.5; CR = 2.41, p<.05), physics collection (M girls=1.33; M boys=1.27; % of difference = 3; CR = 2.05, p<.05), chemistry observation (M girls=1.40; M boys=1.30; % of difference = 5; CR = 5.66, p<.01), and chemistry activity (M girls=1.37; M boys=1.31; % of difference = 3; CR = 2.18, p<.05).

Table 2 presents Gender-based comparison of interest in science in the three fields of science.

TABLE 2

Details of Test of Significance of Difference in Mean Scores of interest in science (IS), biology (IB), physics (IP) and chemistry (IC) between Girls and Boys

Variable	*Girls (N=653)*		*Boys (N=808)*		*t*
	M_1	SD_1	M_2	SD_2	
IS	1.53	0.30	1.51	0.30	2.00*
IB	1.55	0.31	1.50	0.31	3.08**
IP	1.50	0.38	1.55	0.34	-2.70**
IC	1.53	0.36	1.46	0.37	3.34**

Note: *Significant at .05 level
**Significant at 0.01 level

Girls showed more interest in science than boys did (CR= 2.00, p<.05) (Table 2). Higher interest of girls in science was mainly due to their higher extent of interest in biology (CR = 3.08, p< 0.01) and chemistry (CR= 3.34, p< 0.01) where as in physics boys showed more interest than girls do (CR= -2.70, p<0.01).

Locality-based difference in out-of-school science experiences and interest in science

Table 3 presents comparison of out-of-school experiences in biology, physics and chemistry between urban and rural pupils.

TABLE 3

Details of Test of Significance of Difference between Rural and Urban Pupils in Mean Scores of out-of-school science (OSSE), biology (OSBE), physics (OSPE) and chemistry (OSCE) related experiences

Variable	*Rural (N=1108)*		*Urban (N=353)*		*t*
	M_1	SD_1	M_2	SD_2	
OSSE	1.27	0.24	1.33	0.28	-2.98**
OSBE	1.36	0.25	1.42	0.29	-3.27**
OSPE	1.22	0.29	1.30	0.31	-3.48**
OSCE	1.21	0.32	1.26	0.36	-2.35*

Note: *Significant at 0.05 level
**Significant at 0.01 level

In the extent of out-of-school science experiences, urban pupils had significantly higher score than rural pupils (CR = -2.98, p<.01) (Table 3). Urban pupils excelled rural pupils in the extent of out-of-school biology experiences (CR = -3.27, p<.01), out-of-school physics experiences (CR = -3.48, p<.01) and out-of-school chemistry experiences (CR = -2.35, p<.05).

Urban pupils had higher extent of biology observation (M urban=1.26;M rural=1.20; % of difference= 3; CR = -3.10, p<.01), biology activity (M urban=1.36; M rural=1.27; % of difference= 4.5; CR = -4.44, p<.01), biology experimentation (M urban=1.43; M rural=1.37; % of difference= 3; CR = -2.45, p<.05), physics observation (M urban=1.37;

M rural=1.26; % of difference= 5.5; CR = -5.39, p<.01), physics activity (M urban=1.29; M rural=1.23; % of difference= 3; CR = -3.16, p<.01), physics experimentation (M urban=1.20; M rural=1.12; % of difference= 4; CR = -3.39, p<.01), chemistry collection (M urban=1.25; M rural=1.17; % of difference= 4; CR= -2.25, p< 0.05) and chemistry experimentation (M urban=1.09; M rural=0.99; % of difference= 5; CR = -4.03, p<.01).

Table 4 presents locality-based comparison of interest in science in the three fields of science.

TABLE 4

Details of Test of Significance of Difference in Mean Scores of interest in science (IS), biology (IB), physics (IP) and chemistry (IC) between Rural and Urban Pupils

Variable	*Rural (N=1108)*		*Urban (N=353)*		*t*
	M_1	SD_1	M_2	SD_2	
IS	1.50	0.31	1.58	0.27	-4.00**
IB	1.51	0.32	1.58	0.28	-3.82**
IP	1.51	0.37	1.60	0.31	-4.42**
IC	1.47	0.37	1.54	0.35	-3.05**

Note: **Significant at 0.01 level

Urban pupils are more interested in science than rural pupils are (CR= -4.00, p<.01) (Table 4). Urban pupils showed more interest in all the three fields of science viz., biology (CR= -3.82, p<.01), physics (CR= -4.42, p<.01) and chemistry (CR= -3.05, p<.01).

Correlation between out-of-school science experiences and interest in science

Out-of-school science experience had positive and substantial correlation with interest in science (r =0.46, p<0.01). Positive and substantial correlation is evident between out-of-school biology experiences and interest in biology (r =0.44, p<0.01) while the relationship is positive but low between out-of-school physics experiences and interest in physics (r =0.35, p<0.01) and out-of-school chemistry experience and interest in chemistry (r =0.29, p<0.01). None of the categories of out-of-school science experiences had substantial correlation with interest in science, coefficients of correlation ranging between r = 0.16, p<.05 and r = 0.35, p<.01.

Discussion

Extent of out-of-school science experiences is moderate with pupils deriving more experience from biology than from chemistry with physics experiences in between. It is quite strange that pupils derived the least biology experience through observation. Theoretically, one can get lot of biological experiences through observation. Nevertheless, active nature of young children may not let them remain satisfied with observation alone, which is a passive process. The least amount of physics experience is from experimentation indicating that children derive more experience from vicarious sources than from direct ones. Boys have more out-of-school experiences in physics and girls in chemistry. This finding is similar to those from other parts of the world (Farenga & Joyce, 1997; Sjoberg, 2000; Christidou, 2006). Generally, boys, compared to girls, indulge more in activity and girls, compared to boys, indulge more in collection. Science is doing; hence, boys

who indulge more in activities will naturally have higher extent of experience in science. Urban pupils excel rural pupils in out-of-school science experiences.

Interest in science is relatively high with biology and physics being more interesting than chemistry. Study conducted abroad (Borrows, 2004) also shows lesser preference for chemistry among pupils. The extent of interest in science is more for girls, owing mainly due to their higher interest in biology and chemistry. Increased interest of girls in biology corroborated by other researches as well (Gardner, 1975; Sjoberg, 2000; Uitto et al, 2006) is related to girls' higher interest in people and life oriented aspects of science (Miller et al, 2006). The finding that boys are more interested in physics has support of previous researches (Tsabari & Yarden, 2005; Christidou, 2006). It may be that abstract concepts of physics appeal girls less (Tsabari & Yarden, 2005) and they have less experience in physics; experience has an influence on interest (Johnson, 1987; Sjoberg, 2000). Urban pupils are more interested in all the three fields of science than rural pupils suggesting societal influence on interest in science. In accordance with earlier studies (Joyce & Farenga, 1999; Uitto et al, 2006, Zoldozoa, 2006) this study reveals that Out-of-school science experiences have positive correlation with interest in science. The influence of experiences on interest is more in biology than in physics and chemistry.

What the above findings imply for schools?

One cannot do much to control out-of-school experiences, but knowing about what pupils bring to the classroom will help for providing better education. Knowledge of pupils' out-of-school experiences is invaluable as the present experiences are building blocks of the future experiences. Knowing students' experiences assists in providing those experiences that pupil lack, in choosing experiences that can result in optimum dissonance with existing experiences and in helping pupils to see the meaning and significance of life experience in what they learn at school.

Interest and attitude that one develops in the lower classes influence their future choices (Lloyd & Contreras, 1984). Identifying pupils' diverse interests helps to nurture those interests. Teaching needs to help children realise that chemistry is something that is going on all around and within us will help them see its significance. Pupils need to see that the very essence of biology rests on chemical reactions. This would help them appreciate the significance of chemistry in our lives. Schools cannot ignore the disparity in out-of-school experiences, as substantial positive correlation exists between out-of-school science experiences and interest in science. Girls have to be more accustomed to physics and made aware of the significance of physics, lest they remain behind in the modern techno-savvy world. Disparity between urban and rural schools can do nothing but contribute to the backwardness of rural pupils. Providing more computers and better lab facilities, supplemented with frequent educational excursions to places of scientific interest might be one-step in rural children getting more experience.

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Perception of Teachers for Quality School Culture and Climate

with special reference to Kendriya Vidyalayas and Navodaya Vidyalayas

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Abstract

School education plays a significant role in shaping the destiny of the students and the nation as a whole. School culture and climate inculcates and develops values, manners, habits, self-confidence, self-discipline, self-reliance and career mindedness in a person right from the childhood. It provides base for building future career and help to achieve the desired goals. Quality is a complex and relative term and has no physical measurable form. Different individuals perceive the concept of quality in different manners. In school education teachers are the major providers of the education services to the consumers of the system, i.e. students. So, the teachers' views for quality school atmosphere have a great significance. In present paper efforts are made to study the quality of school education in Kendriya Vidyalayas and Navodaya Vidyalayas from the eyes of their teachers. The perception of teachers on school culture and climate is visualised along with their expectations. The paper also suggests measures and prioritises concerns for improvement in quality of education at school level to make it more vibrant and effective in accomplishing the task of providing quality education to all children.

School education plays a significant role in shaping the destiny of children. It inculcates self-confidence, self-reliance and career mindedness along with habits, manners and values in students to delve deep into realm of knowledge and scale new heights of success and glory. It also provides base for building future career and helps to achieve desired goals. But in reality students are graduating from schools and colleges, unprepared to meet the demands of a society. They are not prepared to become responsible productive citizens, do not meet the needs of their next generation and become burden on the society. Educational policies strongly articulated the need for a qualitative improvement in education

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system in India. The quality of the school education depends of school environment which consists of numerous factors, like-school building, physical infrastructure, quality of teachers, teaching-learning process, the school environment, students, parents, community, local resources, etc. These are the best available in Kendriya Vidyalayas (KVs), Navodaya Vidyalayas (NVs) and some of the public schools. Teachers can better perceive school culture and climate for quality education.

About 980 KVs and 580 NVs in the country are pace setting institutions with their own identity for qualitative educational practices. They play significant role as silent workers in the field of school education. KVs are non-residential and serve the urban areas and the NVs are residential and work for rural segment of society. KVs admit wards of Defence and other all India transferable employees and NVs admit rural talent on competition basis. Both work up to higher secondary level and are affiliated to the Central Board of Secondary Education (CBSE). Results of NVs proved better than KVs in the 2008 examinations. In a recently held grand equity survey conducted by a national daily the KVs have been rated as top most brand in the field of school education strategies leading to customer satisfaction. Teachers of these Vidyalayas work in two of the best education systems and they can judge the quality of the institution culture and climate carefully.

Objectives

A study was conducted on teachers of NVs and KVs located in different parts of the country, with the following objectives:

1. To study the school climate in Kendriya Vidyalayas and Navodaya Vidyalayas.
2. To study the teachers perception of quality components in the Vidyalayas.
3. To find out the teachers' views for strong points and weaknesses in education system.
4. To suggest measures for qualitative education in residential and non-residential schools in the country.

Methodology

A questionnaire with rating scales was developed to access the perception of the teachers about the school culture and climate. It contained basic information about the school and teaches in Part A and their perception about school environment and facilities in Part B. It was administered on the teachers of these Vidyalayas (60 in NVs and 13 in KVs). To seek free and frank opinion the teachers were asked not to mention their identity on the format. The responses were further analyzed and discussed to confirm their opinion and suggestions.

The institutional culture and climate was assessed on eleven aspects – infrastructural facilities, impression of school in the society, community support, school environment, students' care – at school and home, academic climate, quality teaching, service conditions, professional growth of the teachers, management patterns and quality management in the school. On every aspect different parameters were used to judge the views of the teachers.

Major Findings

On the basis of the comprehensive analytical study of the filled-up questionnaire and rating scales the followings major findings were made:

(a) Infrastructural facilities

In present competitive world, the increasing pressure of population and advancing technology has created the requirements of quality education for which strong basic infrastructural facilities in the schools are necessary. There has to be adequate space for expansion and growth for future needs. These needs of the facilities are also to be assessed on regular basis. Table 1 gives the teachers' opinion on these parameters.

TABLE 1
Infrastructural Facilities

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	School has ample space for further growth & development	41.10	42.42	6.85	2.74	6.85
2.	Future needs of the school are worked out regularly.	9.21	57.89	22.37	7.89	2.63

TABLE 2
Impression of the School in Society

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	Board results show qualitative improvement in the school	30.67	50.67	16	1.33	1.33
2.	The life in school is dull and dry	1.32	9.21	11.84	51.32	26.32
3.	School discipline is going down day-by-day.	2.44	10.98	15.85	48.78	21.95
4.	Students love and like the school	30.13	50.68	13.70	5.48	00
5.	It is a pleasure and privilege for me to work in the school	52.05	36.99	6.85	4.11	00
6.	There is nothing to be proud of in the school.	2.70	8.11	2.70	48.65	37.84
7.	School has a special status in the society	34.20	50.00	7.89	6.58	1.32
8.	School has hardly any future prospects.	1.39	25.00	18.06	30.56	2.50

Table 1 shows that about 84% of the teachers feel that there is sufficient space in their schools for future growth and developments. But formal regular estimations or working on the future needs, requires attention as only about 9% teachers were found to be fully confident (strongly agree) and 58 % teachers could agree on this parameter.

(b) Impression of school in the society

A school should have good reputation in the society. School results in board examinations, quality of school life, students' discipline, teachers' and students' liking for the school, etc. contribute to popularity of the school and the teachers and students feel proud on their school. The school life should also not be dull and dry. These parameters in the school culture and climate of KV and NV in the views of their teachers are shown in table 2.

Teachers of these schools were found to have the feeling that board results of these schools are qualitatively improving as 81% of them agree or strongly agree on this issue. About 78% of the teachers were found to disagree on the parameter that school life is dull and dry, more than 70% teachers were found to have the impression that school discipline is not going down, more than 80% were found to have the feeling that students love and like the school, more than 89% teachers feel pleasure on serving in these schools and more than 86% teachers were found to be proud of their school. About 85% teachers were of the opinion that KVs and NVs have special status in society, but on future prospects of the schools any clear opinion could not be seen.

(c) Community support

Schools have to work in coordination with the community. Community extends support to the school and full utilization of the community resources is necessary. Parent Teacher Association (PTA), Ex-students' Alumni Association have a great role in development of community support. Opinion of teachers on these parameters is given in table 3:

TABLE 3
Community Support to the Schools

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	Community helps in development of School.	5.26	38.16	27.63	27.63	1.32
2.	School fully utilises its' resources for development	23.68	48.68	15.79	10.53	1.32
3.	Ex-students' meetings are organised in school	16.00	52.00	18.67	12.00	1.33
4.	Parent-teacher meetings are ineffective.	5.56	31.94	13.89	36.11	12.50

Table 3 shows that about only 43% teachers feel that in KV and NV there is any type of community help but about 70% teachers were found to agree on the parameter of full utilization of community resources. So, community extends less help to the schools but whatever help is extended that is fully utilised in the schools. 68% teachers agree that ex-students meeting are organised but on the parameter of effectiveness of PTA meetings, they cannot give any clear-cut opinion.

(d) School environment

A peaceful encouraging academic climate with full of enthusiasm is necessary for quality education in the school. For such atmosphere the school should have clear-cut long term goals supported by short-term targets, and tension-free life of the students and teachers with priority for quality education in a motivating atmosphere. The teachers should be well versed and should work with positive attitude. In present era of globalisation, a real competitive spirit in all spheres of education is also necessary. These parameters were tested on the sample and the results are given in table 4.

Table 4 shows that about 88% teachers agree or strongly agree for quality life in KVs and NVs, having

TABLE 4
School Environment

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	Quality of life in school is poor.	1.28	12.82	5.13	57.69	23.08
2.	School does not have clear-cut goals.	1.33	4.00	6.67	50.67	37.33
3.	Quality education is the priority of the school	29.33	58.67	5.33	4.00	2.67
4.	Positive attitude achieving excellence is missing in school	4.05	20.27	9.46	43.24	22.97
5.	Achievement targets are not fixed.	2.63	13.15	11.84	44.74	27.63
6.	There is motivating atmosphere in school	19.74	53.95	18.42	6.58	1.32
7.	Little is known to teachers of what is going on in school.	1.33	24.32	35.14	25.68	13.51
8	Teachers have hardly any time to work on innovative practices.	15.58	37.67	15.58	22.08	9.09
9.	Activities are organised in school for activity sake only	4.00	46.67	16.00	24.00	9.33
10.	Co-curricular activities are organised on special occasions only.	9.33	12.00	9.33	49.33	20.00
11.	School participates in inter-school competitions/activities.	28.00	58.67	12.00	00	1.33

clear-cut goals/achievement targets and priority for quality education (parameter 1, 2 and 3). On the issue of motivating atmosphere about 55% teachers agreed but were not confident as the score for strongly agree was low. Similarly, well informed teachers with positive attitude, availability of time for working on innovative practices, effective organisation of activities and schools' participation in competitive activities, were also lacking in the school.

(e) Students' care

School plays significant role in development of good habits and shaping the career of the students. The principal, teachers and all supporting staff should care for students with impartiality. Special attention is needed for the students who are either talented or weak in studies to get flying colours in examinations. They are to be given practice of speed-cum-accuracy tests to secure higher marks in examinations and School should have a plan of action for its students for creation of career-mindedness in them. KV and NV teachers' views on these parameters are given in table 5.

Table 5 shows, about 85% teachers feel that the schools take care for the future of their students. 80% and more

TABLE 5
Students' care

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	No one is worried about future of students.	1.30	6.49	7.79	49.35	35.06
2.	Attention is paid to students who are good in studies	17.81	63.01	5.48	6.85	6.85
3.	Good attention is paid to handicapped students	13.51	72.97	1.35	8.11	4.05
4.	Students are given practice of speed cum accuracy tests.	9.33	70.67	10.67	6.67	2.67
5.	School has a plan of action for creating career minded ness among students	15.73	55.26	19.74	6.58	2.63
6.	Talented students do not get proper attention	1.35	20.27	8.11	48.65	21.62
7.	Students who are weak in studies do not get special attention.	00	13.33	10.67	48.00	28.00
8.	Regularity and punctuality is missing in the school.	00	5.40	2.70	48.65	43.24
9.	Students hardly get educational support from their parents.	13.70	36.62	21.92	15.07	13.69

teachers expressed that speed-cum-accuracy tests are given to the students for better performance. The students who are good in studies are well nurtured and attention is also paid to handicapped students. About 90% teachers agreed that there is regularity and punctuality in the schools and 70% and 75% teachers were found to be of the opinion that talented and weak are taken care of. But on the issue of plan for creation of career mindedness in students their agreement was found to have the strength of 70% only. In KVs students get educational support from their parents which is lacking in NVs.

(f) Academic climate in the school

School culture and climate play a dominant role in shaping the career of the students. Teachers should be cautious for future needs and accordingly should demand audio-video and printed material for libraries. Educational tours and trips, quiz competitions, etc. should be organised for real exposure and development of competitiveness and grasping power. The students should attend to classes and co-curricular activities and be serious about their studies. Academic environment of the schools should go on improving day-by-day without any compromise with the standards of education. Teachers' opinion on these parameters is given in table 6.

Table 6 shows that about 90% teachers were found to be of the view that quiz competitions are regularly arranged. Organisation of educational

TABLE 6
Academic climate in the schools

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	School environment needs to be improved.	14.86	44.59	24.32	6.76	9.46
2.	Educational Trips are organised in the school	10.26	46.15	12.82	23.08	7.69
3.	Quiz competitions are arranged in school	25.33	66.67	6.67	00	1.33
4.	Teachers needs and requirements are assessed regularly	8.11	48.65	17.57	20.27	5.41
5.	No compromise is done with the standard of education.	38.16	42.11	14.47	00	5.26
6.	Students are hardly serious about their studies in the school	15.17	30.14	24.67	15.07	15.06
7.	Students leave classes during school hours.	1.32	17.11	5.26	44.74	31.58

trips was supported by only 55% teachers. Schools do not want to make any compromise with the standards of education (as more than 80% teachers agreed or strongly agreed) but regular assessment of teachers needs and requirements was agreed on by only 56% teachers. Students were found to be attending their classes regularly (as more than 85% teachers disagree on students leaving classes during school hours) but they are not found to be serious for their studies (as only 45% teachers agree on parameter 6) and henceforth about 60% teachers also feel for improvements in the school environment.

(g) Quality teaching in the school

Teaching is a major activity of the schools as it involves all students at most of the time and gives better board results to create name and fame of the school in community. Effective teaching needs teacher's command on the subject area and delivery of content using variety of methods suitable to the content and class. The teachers should not be deployed elsewhere on jobs other than teaching. They should be available for teaching work all the times. All subject teachers should meet periodically for improvement of teaching and making it student centred. The school administration should facilitate teaching and teaching should not be suspended for one or the other petty reason. The student should also listen, understand and take notes of classroom teaching carefully and should not bunk classes. The teachers' opinion on these parameters is given in Table 7.

Table 7 clarifies that about 65% teachers agree on the issue of running classes without suspending them for co-curricular activities (CCA) etc. and teachers have command over their

TABLE 7
Teaching in the school

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	Mostly lecture method is followed in teaching.	2.63	21.05	35.53	23.64	17.11
2.	Only few teachers have command over their subject.	3.95	13.16	17.10	46.05	19.74
3.	Teachers are often given work which has no relevance to their job.	16.22	17.57	29.73	32.43	4.05
4.	Subject teachers often meet and decide actions to improve teaching.	26.67	60.00	8.00	4.00	1.33
5.	Often teaching is suspended to arrange co-curricular activities.	2.63	10.53	23.68	40.79	22.37
6.	Students leave classes during school hours.	1.32	17.11	5.26	44.74	31.58

subject in the opinion of about 80% teachers. Teachers meet and decide action for improving teaching in the opinion of about 85% teachers and students also attend classes in the opinion of about 75% teachers. But on the parameter of not engaging teachers in non-teaching works, only 35% teachers could agree and similarly 58% agreed on following lecture method in teaching. Here, there is scope for improvement.

(h) Service conditions of the teachers in the schools

Teachers are human resource in education system and have to be suitably motivated and rewarded for extraction of good work. They should be selected on merit, should have attractive service conditions with job security and the management should organise teacher welfare activities. The problems and suggestions of teachers should be well attended to by the school administration. Teachers should get opportunities to improve performance in teaching; their good work should be recognised and should be assessed through self-appraisal to make them more responsible. The teachers of KV and NV gave their opinion on these issues as mentioned in Table 8.

Table 8 shows that about 65% teachers were found to have the opinion that teachers in KV and NV are selected on merit, have job security, get opportunities to improve their

TABLE 8
Service conditions of the teachers

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	Teachers have job security in the school.	18.18	44.16	16.88	20.78	00
2.	Service conditions for teachers are attractive.	6.58	39.47	31.58	17.11	5.26
3.	School management provides welfare activities.	5.41	39.19	24.32	29.73	1.35
4.	Teachers' problems are well attended in school.	2.67	42.67	26.67	18.67	9.33
5.	Teachers' work is assessed through their self-appraisal.	4.17	43.06	25.00	25.00	2.78
6.	Good work is recognised by the school management.	9.33	54.67	28.00	6.67	1.33
7.	Teachers get opportunities to improve their performance.	16.88	49.35	14.29	15.58	3.90
8.	Teachers are selected on merit.	22.67	42.67	12.00	18.67	4.00

performance and their good work is recognised. Teachers feel that their service conditions are attractive in KVs (due to urban base) and not much attractive in NVs (due to rural base). But there found to be less concentration of opinion on solution of problems of teachers by management, assessments through self-appraisal and welfare activities for the teachers.

(i) Professional growth of teachers in the school

Professional growth is necessary for career development of the teachers. School administration should be positive to the changing needs of future and should take care of growth and development of teachers. For this refresher courses should be organised, new ideas of teachers for betterment in teaching learning activities should be encouraged. The opinion given by the KV and NV teachers on these parameters are given in Table 9.

Table 9 shows, about 75% KV and NV teachers feel that their school administration is worried for progress of the teachers and takes care of the teachers' future needs. According to 88% teachers of the sample the refresher courses are organised and new ideas are encouraged and incentives are given for outstanding performance according to about 70% teachers.

(j) Management patterns in the school

School management should be based on pre-decided policies, procedures and rules. Administration should support the school activities, teachers' views on various problems should be taken in staff meetings and there should be no place for groupism in management of school. Table 10 shows views of the teachers on these parameters.

Table 10 shows that about 80% teachers were found to be having the view that there are set procedures for

TABLE 9
Professional growth of teachers in the school
(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	No one is worried about the progress of the teachers.	4.00	6.67	10.67	49.33	29.33
2.	Administration does not encourage new ideas.	1.30	15.58	15.58	49.35	18.18
3.	Incentives are given to teachers who achieve outstanding performance.	26.67	42.67	17.33	13.33	00
4.	Refresher courses are arranged for the teachers	22.39	65.79	10.53	00	1.32
5.	Management is positive to changing needs of the teachers.	18.06	55.56	16.66	5.56	4.17

TABLE 10
School Management Pattern

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	Teachers are consulted in decision making.	5.19	61.04	19.48	11.69	2.60
2.	There are set procedures for smooth functioning in the school.	6.76	72.97	9.46	9.47	1.35
3.	Groupism exists in the school.	1.33	33.33	20.00	29.33	16.00
4.	School gets enough support from the management.	14.47	55.26	22.37	7.89	00
5.	Staff meetings are just formalities.	5.19	20.78	18.18	40.26	15.58
6.	School is the victim of mismanagement.	00	18.67	21.33	34.67	25.33

smooth functioning of the schools. About 70% teachers felt that schools have enough support from the school administration, 65% respondents feel that teachers are consulted in decision making. But the staff meetings are just formalities and management takes its own decision. Groupism exists in the schools as the teachers could not express firm opinion on these parameters but about 60% respondents feel that the school is not a victim of mismanagement.

(Ic) Quality management in the school

In twenty-first century quality is a must in each and everything for survival. It is equally applicable in education sector too. Change is a requirement for quality shift in education sector and more specifically in a developing country, like India. New techniques of management are to be applied in education sector in which the Principal should assume a leadership role (not as an authoritative administrator). Regular supervision through inspections is required for monitoring the improvements in the performance level and all should cooperate in the quality management of school. Teachers have to play a specific role and assume responsibility for quality of education in a school. Opinion of the teachers on these parameters is given in Table 11.

Table 11 shows that about 92% teachers agree on the parameter of application of new techniques of management for quality improvement in education in school. Majority of them (about 77%) had the opinion that the principal's administrative role is also regularly assessed for improvements and school has made progress in his/her leadership in the opinion of about 76% teachers. About 87% teachers agree that inspections are conducted regularly for improvement. But, some of them (about 42%) opined that teachers flatter the management and the principal.

TABLE 11
Quality Management in the School

(In percentage)

S. No.	*Parameters*	*Strongly Agree*	*Agree*	*Partially Agree*	*Disagree*	*Strongly Disagree*
1.	Administration applies new techniques of management for qualitative improvement.	12.00	60.00	20.00	6.67	1.33
2.	Principal's leadership role is also assessed.	10.39	67.53	14.29	5.19	2.60
3.	School has made progress in the present leadership.	34.21	42.11	13.16	6.58	3.95
4.	School inspection is done by the management.	32.05	55.13	7.69	3.85	1.28
5.	Some of the teachers can be seen flattering the management/principal.	5.80	36.23	21.74	20.29	15.94

Observations

KVs are CBSE affiliated English and Hindi medium co-educational institutions located generally in urban areas and provide education upto Class XII. Normally, they run in one shift, in own buildings and teachers teach about 6-8 periods per day at primary level which reduces later. Principals are also required to teach 6 periods per day. KVs have adequate school buildings, classrooms, playgrounds, staffroom, games room, computer facilities, school hall and separate craft room, fine art room and music room. There are adequate science practical facilities for high school students and for higher secondary students' facilities exist for separate physics, chemistry and biology practical. The libraries are equipped with textbooks, reference books, proper furniture for seating arrangements, etc. and at few places photocopying facilities are also available. There are adequate toilets separate for boys and girls but at drinking water points normally rush is being seen as the students come at the time of intervals, only. There is neat and clean academic environment with writing of great saints and sages and duly maintained display boards. Kendriya Vidyalayas have very good results, use play-way methods of teaching and child-centred approaches of education. There are some healthy practices also, like class teachers take lunch in the classrooms with their class (more specifically in primary classes), dustbins are kept and widely used, latest books are available in the library and latest version of computers are available. But sometimes the school seems to be small for accommodating all children. Vidyalayas feel need for a trained counsellor. Parent-teacher meetings and staff development programmes are organised regularly. At some places the cleanliness, display boards, seating arrangement and photocopying facilities

lack in library, but there is always shortage of school transport as schools do not have their own buses. There are good relations between teachers and students, teachers and principal and among teachers and students themselves. Sometimes the teachers feel more interference of parents in the day-to-day working and some teachers also feel need of vocational education in the school. Chairmen visit the school at several occasions and motivate the staff and students. Students mostly get selected in competitive exams like PET, PMT, IIT, NDA, etc. and there are the facilities of NCC, Scout and Guide for the students.

Navodaya Vidyalayas are co-educational residential schools fully financed and administered by the Government of India through an autonomous organisation Navodaya Vidyalaya Samiti established in rural areas working for Classes VI to XII in single shift. They are affiliated to CBSE and provide good quality modern education on the lines of KVs to the talented children predominantly from the rural areas, without any regard to the socio-economic conditions of the family. Admissions are made at Class VI level and medium of instruction is mother tongue/regional language up to Class VIII. They serve each district of the country in 27 States and 7 Union Territories and work for attaining reasonable level of competence in the rural children. These Vidyalayas run in own specious pucca buildings with sufficient infrastructural facilities like classrooms, staffrooms, hostels, rooms for games, work experience, computers, fully equipped labs, libraries, etc. These schools also have their own transport facility. About two lakh students are on roll of the Navodaya Vidyalayas. Students for these Vidyalayas are selected through admission test. Supervised studies, remedial teaching and special coaching are the main features of the Vidyalayas, which result to better performance in examinations. These institutions follow many innovative practices in nurturing rural talent without any type of discrimination. In these Vidyalayas teacher/student ratio is maintained as 1:30 to 1:40. These institutions develop moral, ethical, social and national character through their day-to-day working and migration policy. Students and teachers live together and work for quality education in a team sprit.

Changed role of the Principal

Principal is an academic leader and manager of the educational institution. Her/his management should be based on reliable data of students' performance, cost and financial analysis and bench marking. She/he should measure his success by the success of individuals within the organisation and should have a vision for the future and get the teachers and staff to accept ownership of the vision as their own. Then the teachers and staff will be committed to achieve the goal. They must create strategies, systems and methods for achieving academic excellence. Encouragement for participation and creativity in all students and staff is a must for quality education. Involvement of all in activities, like planning, review of education quality performance standards, recognising staff for quality achievements, re-enforcing values and

encouraging leadership at all levels. The principal should:

- Enhance the value of school to the students through development of new need-based educational services.
- Reduce inconsistence, which place the credibility of educational process in question.
- Improve responsiveness to students' requirements.
- Improve productivity and effectiveness in use of resources.

Reward and recognition system should be re-enforced. Factors with bearing upon the safety, health, well-being and morale of teacher, staff and students must be a part of continuous improvement. Students must get education and training in quality skills related to performing their jobs and understanding problem-solving tools and techniques. Assessment is necessary to ensure correctness of activities. It may involve stakeholders and has to take place before, during and after completion of the jobs. The quality definition of assessment is:

- Ensuring that what is supposed to happen actually happened.
- Ensure that everything we do has added value in the school
- Ensure that the schools do provide value to the customers.
- Ensure that we work efficiently.
- Ensure that we constantly strive to improve output.
- Ensure that we are never resistant to change.

Fulfilment of students, community and staff needs has to be assessed record keeping; target setting at all levels and for all activities must be an on-going process, feedback processes and activity analysis and corrective action has to be taken in time. It establishes a culture to focus on meeting the needs of the students, staff, better learning and working environment, improved efficiency and productivity, effective team work, improved outcome, recognition by staff, students and community. Now-a-days, education system is under immense pressure to change. Re-structuring programmes are being implemented to improve performance and school tone.

Suggestions

In India, teaching is not a well paid career. For some it is the last career option because other doors had shut in their face. Teachers may be demoralised by financial difficulties and a perceived lack of prospects. Too often they feel as if they can do little to shape their students' future. Therefore, this is the collective responsibility of society to infuse self confidence in teachers and ensure that they realize the mighty mission they have undertaken. For this purpose society demands improvement in quality of education but it fails to support education's efforts to improve due to lack of resources.

1. Regular researches should be conducted for development and improvement in quality of education system in the schools. For this purpose separate wing or department may be created at regional level.
2. Parent-teacher meetings should be regularly organised and better

support from the community has to be taken.

3. The future requirements for expansion of the KVs and NVs should be worked out regularly and provisions should be made accordingly.
4. Use of Educational Technology (ET) and other modern facilities should be extended to the classroom in these Vidyalayas. One ET Lab may be established in each and every school.
5. The community should have proper representation in the management committee meetings of the schools. Parent-Teacher Association (PTA) meetings should be conducted periodically for linkages and proposals of these meetings should be implemented judiciously.
6. The Vidyalayas should have tension-free motivating atmosphere for quality education.
7. Teachers should be well-versed and feel belongingness with the school. For this purpose regular dialogue and conduct of staff meetings in democratic manner is necessary.
8. Sufficient number of teachers in all subject areas should be on the posted strength in the school so that there may not be any pressure for completion of courses by lecture method and to get time for innovative practices in teaching-learning process. Good innovative practices should be praised and suitably rewarded.
9. Students of KV and NV go to private coaching centers as there is no facility/plan for their career development. Schools should sketch plans to develop career mindedness in the students and accordingly facilities should be provided. Then the students will be more serious for their studies in school.
10. Classroom teaching should be the first priority of the teachers and they should not be engaged in other work at the time of teaching.
11. Personal problems of the teachers should be taken care of in consideration of transfers, etc. to motivate them for working whole heartedly and their outstanding work should be suitably awarded.
12. Generally, the principals manage the school taking few or some of the teachers in confidence. This may lead to groupism in the school depending on the nature of the teachers in his confidence. He/she should take the vice-principal in confidence and all important decisions should come-up in the staff meetings for which proper minutes, etc. should be recorded.
13. Recruitment of the teachers has to be made on merit. Teachers should be well cared for by the administration to be dedicated employees. This will also control flattering by teachers of their principal or administration

Policy Implications

Quality is on-going process, needs good leadership, massive training and involvement of everyone. It establishes a flexible infrastructure, which can quickly respond to society's changing demand. Creation of quality has four essential components—

(i) Commitment to change which may evoke fear in the minds of people as

the change may also be from public to private institutions.

(ii) Clear understanding of where we are and how the system of education is working.

(iii) Clear vision of future in every one to remain focused and committed to quality transformation.

(iv) Clear plan for implementing quality in team with a set of guidelines.

Some policy implications of the research are as under:

1. A research and development wing or section should be established to plan for future in headquarter and regional offices of the KVs and NVs.
2. One ET lab should be established in all Vidyalayas to ensure effective use of computers and IT in the schools by the students and teachers.
3. Good linkages are to be established with the community.
4. Sufficient number of subject teachers should be posted in the schools to teach the students without any pressure of time and also to think of innovative practices in teaching learning process, which should be suitably recognised through research and development wing or section of the organisation.
5. The problems of teachers should be taken care of by the administration to improve loyalty and belongingness. Transfers, promotions, rewards and appraisal system should be suitably developed for this purpose.
6. There should be a post of counsellor in all Vidyalayas to guide and counsel the students for their career.
7. Satisfactory and satisfied workforce of teachers should be developed in the schools.

Conclusion

Quality education requires future orientation and commitment to staff, students and citizen. Strategies plans and resource allocation must reflect these commitments and address training, staff and students' development, technological evolutions and other factors that have bearings on quality. Education must undergo a paradigm shift, old norms and beliefs must be challenged. For this, teachers must learn to help students develop the skills they need to compete in a global economy. No plan for quality education may be constant as it has to reflect changes. All internal and external environmental factors that have an impact on education should change. It takes time in changing attitude of all and wide investment in training is also required. Quality in education will improve when educational administrators, teachers, supportive staff, students, parents, etc. all develop new attitudes that focuses on leadership, teamwork, cooperation, accountability and re-organize everything. The leaders in educational scenario in the form of principals and administrators must be committed to quality. Sometimes, they may not agree with the suggestions and recommendations of the staff but should always listen to them. They should encourage the staff to find new ways to improve efficiency, productivity and service quality.

The quality vision in education focuses on meeting the needs of the

customers (students, parents, employees, etc.) providing total community involvement, developing system to measure the added value in education support system that the staff and students need to manage change and continuous improvement, always striving to make the product of education better. So, the quality schools should have:

- Long-range vision and mission for improvement
- Pre-decided goals and objectives
- Beliefs of values for all
- Management by objectives
- Customer focus
- Total involvement of all with commitments
- Continuous improvement and fast responses
- Critical success factor and measurement of improvements.

Adequate attention on all factors is necessary for success in quality improvement of the school. The education system must develop students as valued citizens, who meet the future challenges and changes of a global society. The quality schools create an environment that enables everyone to bring measurable quality improvement in their work process. There has to be a partnership with students, staff, teachers and other educational organisations for quality improvement. Within the school system, there has to be evolution and development of regular communication, approaches to evaluate progress and methods to accommodate the changing conditions.

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Paulo Freire: Some Reflections

NAJMAH PEERZADA*

Abstract

Paulo Freire had contributed a philosophy of education that came not only from the classical approaches stemming from Plato but also from the modern Marxist and anti-colonialist thinkers. The article briefly summarises the biography of the Paulo, his thoughts, specially his writings on the Pedagogy of the Oppressed which he dedicated to the oppressed and to those who suffer with them and fight at their side. Freire includes a detailed Marxist class analysis in his exploration of the relationship between the coloniser and the colonised. Freire is also known for attack on what he called the banking concept of education in which the student was viewed as an empty account to be filled by the teacher.

Paulo Regulus Neves Freire, a Brazilian educator, a renowned contemporary educational philosopher was born in 1921 in Recife, the centre of one of the most extreme situation of poverty and under development in the Third World, he experienced the situation directly. He has made a profound impact not only in the field of education but also in the over all struggle for national development. The economic depression of the 1930s hit the Freire's middle class family and his studies got disturbed. He was so stirred up that he took a vow at the age of eleven that he would dedicate his life to the struggle against hunger so that other children would not have to face the agony he was then experiencing.

He established law school at the University of Recife in 1943. He got his Ph.D in 1959 from the University of Recife and later he worked as Professor of History and Philosophy of Education in the same University. Freire spent five years working with UNESCO and the Children Institute for Agrarian Reform in the Programmes of Adult Education.

Freire acted as a Consultant at Harvard University's School of Education and worked in close association with a number of groups engaged in new educational experiments in rural and urban areas.

He worked as Secretary of Education at Sao Paul City Brazil and Professor at the Pontifical Catholic University of Sao Paul Puc/SP. He served as special consultant to the Office of Education of the World Council of Churches at Geneva.

Paulo Freire has published a vast collection of books which have been translated into a total of eighteen languages. More than twenty

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universities throughout the world have conferred on him the title of Doctor Honoris Causa. His most popular publication, "Padagogy of the Oppressed" (1970) is dedicated to the wretched of this world and to those who identify with, suffer with and fight for the impoverished. He received numerous awards including honary doctorates, the King Balduin Prize for International Development, the Prize for outstanding Christian Educators in 1985 with Elza and UNESCO 1986 prize for education for peace.

Paulo Freire was a man with great sense of humour yet at the same time a man distinguished with all types of injustice. He is father of five children by his first wife Elza. After her death he married his famous student Ana Maria. On 2 May 1997, Paulo Freire died of heart failure at the age 75.

Paulo Freire's educational philosophy

Paulo Freire was a renowned educational philosopher. Due to his revolutionary philosophy he was exiled from his country. His thought represents the response of a creative mind and sensitive conscience to the extra ordinary misery of the oppressed people around him. According to him the ignorance of masses and their lethargy, are direct product of the whole situation of economic, social and political domination. The existing society, he felt, instead of encouraging and equipping them to know and respond to the concrete realities of life, has compelled them to live in a situation in which their critical awareness and response were practically impossible.

Paulo Freire's philosophy of education evolved from his own educational experiments and its main thesis of involving the totality of the child in the process of education. In his famous book *Pedegogy of the Oppressed* , he has presented a stimulating exposition of the phenomenon of oppression in our ordinary education system and a society and the manner in which this oppressing action can be reversed and defeated. He criticises what he calls "banking concept" of education which treats children and students as adaptable, manageable beings and minimises their creative power.

Paulo Freire, a distinguished Brazilian educationist, has advocated for an education which will enable the man to critically look at his world. Education, according to him is not only to help the people to learn how to read and write but also to discover how to hold history in their own hands. That is they can make history with the help of education which according to him is "Cultural Action". Education was perceived as an instrument of social change by the Paulo Freire. His experience of sharing his life with poor led to the realities, the role of education in bringing the masses into the main stream of the social and political life. He feels that previous role of education was to maintain the status quo, i.e. "culture of silence" but now education has to uplift the poor and down-trodden from the position of deprivation and subjugation to that of active participation and makers of the new society. According to him, education should generate new awareness of self and a new sense of dignity among the people so that they can

utilise their potentiality and freedom critically and creatively.

Freire advocates "Problem Posing" education which creates of dialogic relation between teachers and pupils. He points out that problem posing education is revolutionary and futuristic in character and that it affirms human beings as capable of transcending themselves and moving forward and looking ahead.

Paulo Freire takes education as a tool to change the dehumanising conditions of man and society, created by the colonial rule. A humanising education is the path through which men and women can become conscious about their presence in the world. Education is an attempt to arouse people from "culture of silence" and conscientise them to transform the dehumanising structure of society and ultimately realize their freedom.

Freire's theory of education has specially developed in the context of adult education. He developed methodology for the efficient training in literacy to the adult. By literacy education, he made the people aware of the cause of their suppression of rights and exploitation by the dominant class. Education according to Paulo Freire is a means to revolutionise the traditional society which is structured in dialectical relation of oppressors and oppressed, theoriticians and activists vocal and silent, undeveloped dependent and developed dominant, etc. Paulo Freire's revolution, as we observed, is a non-violent revolution. His emphasise is on critical reflection and study of historical situation.

Conscientisation

Conscientisation is a new concept in the educational philosophy of Paulo Freire. The word Conscientisation was used during a round table meeting of Professors at Brazil Institute of Higher Studies in 1964. So Freire adopted this word in his educational philosophical terminology and since then it has become a crucial concept of Freire's educational theory. Originally this word is "Conscientizacao". Paulo Freire's book *Education The Practice of Freedom* (1973) originally published in (1967) contains a chapter on Education and Conscientizacao. He wrote on this concept in three parts, the first two parts of which appeared in the May 1970 issue of the Harward Educational Review and the third part, in his Cultural Action for Freedom. According to Paulo Freire, education is a liberating process. But it cannot liberate people from their misery unless it arouses new awareness in them. This process of arousing new awareness is called Conscientisation. In the process of liberating education, conscientisation plays a vital role. It is the instrument for ejecting the cultural myths which the people retain despite the new reality. Further, it is force countering the bureaucracy, which threatens to deaden the revolutionary vision and dominate the people in the very name of their freedom. Conscientisation is a defence against the potential mythification of the technology which the new society requires to transform its backward infrastructures.

Freire's says Conscientisation is not a magical charm for the revolutionaries but a basic dimension of their reflective

action. If men were not conscious bodies, capable of acting and perceiving, of knowing and recreating, if they were not conscious of themselves and the world, the idea of conscientisation would make no sense—but then neither would the idea of revolution. So According to Freire the aim of education is to break the culture of silence among the oppressed and conscientize them in order to make them fully human.

The Banking Concept of Education

Freire has introduced the new terminology of 'banking concept' in education. He explains this by stating that narration of the teacher turns students into 'containers' into 'receptacles' to be filled. Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues, communiqués and makes deposits which the students patiently receive, memorise and repeat.

He talks about the fallacy of looking at the education system like a bank, a large repository where students come to withdraw the knowledge they need for life.

Conclusion

After going through the above discussion on Paulo Freire's educational philosophy we can safely draw the conclusion that Freire is an example of radical philosophy of adult education, non-formal and extention programmes. He as an educator and philosopher has advocated love for the oppressors. He regards role of teacher as a facilitator, and stimulating the learning process. To him, education is the socialising process towards humanity and a most effective and non-violent means of social change.

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Private Tuition and Its Implications on Quality Secondary Education

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Abstract

Provision of quality school education is one of the major challenges before the Government in the present times. Reforms initiated in school education sector are aiming at expansion and creation of an effective and high quality educational environment for all children. At the same time emerging education scenario is highly competitive and market oriented. Phenomenon of private tuitions has gained firm footing for enhancing one's performance in school, public examinations and admission or entrance competitions. Over the years, it has grown from an individual paid job to a professional institutionalised system. Nevertheless, the practice of private tuitions has affected the quality of education system in general and particularly secondary education system in India. The paper attempts to bring forth the factors influencing the growth of private tuitions and their implication on quality of teachers, teaching-learning process, classroom/school environment and other related dimensions.

Introduction

Quality school education is essential for building an open, democratic society, maintaining social structures and values and for improving the quality of life of people in any country. In the post liberalisation period, major political and socioeconomic transformations have taken place leading to reforms in the education systems. The aim of these reforms has been the creation of an effective and high quality educational environment for all children in consonance to the emerging market needs. Therefore, policy initiatives and interventions on provision of equitable access and quality education have contributed significantly to the ongoing expansion in school education sector. However these reforms have produced unpredicted consequences which are influencing the access and quality of school education. One of such significant practice is private tuitions which has affected the quality of education system in general and particularly secondary education system in India.

Despite the widespread nature of private tuitions, to date there is little

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systematic quantitative research into the causes of the popularity of private tuitions, and its impact on a student's academic performance vis-à-vis quality of secondary education. This paper is based on the results of the study undertaken to explore the nature, causes and consequences of 'Private Tuitions in Delhi'. As per the policy, teachers serving in both the government and private schools are not allowed to give private tuitions. But there is ample evidence indicating that it is taking place on a very large scale. Apart from school teachers, unemployed youth, students, men/women at home all are contributing to this practice. Private tuitions along with formal education system have spread from an individual paid job to a professional institutionalised system. The sample of the study included Class X and Class XII students from central government, state government and privately managed schools. It is in this context the paper attempts to bring forth the factors influencing growth of private tuitions and their implication on quality of teachers, teaching-learning process, classroom/school environment and other related dimensions. This paper begins by briefly reviewing the literature on the extent, causes and impact of private tuitions in Section 2. Section 3 describes the secondary education system in India and the situation of private tuitions. Empirical results of practice of private tuitions in Delhi are then discussed in Section 4 and Section 5 brings forth the implications of private tuition practice on the quality of secondary education and concludes.

Private tuitions: Is it a parallel system of education in making?

Spread

Private tuitions is not an issue unique to developing countries like India. Indeed, it is widespread and can be found in countries as diverse economically and geographically as Canada, Cambodia, Egypt, Greece, Japan, Kenya, Singapore, Taiwan, Morocco, Romania, the United Kingdom, the United States, and Zimbabwe. In Japan private tutoring has a large market, where such centres are called *Juku,* after school classes that prepare youth for competitive exams used for entry into elite universities. The demand for private tuitions is increasing in Western Europe, North America and Australia, where the phenomenon was less prominent earlier (Bray, 1999, p.29). In South Korea, Kim and Lee (2002) find that parents spent an amount approximately equal to 2.9% of the nation's GDP on private tuitions for primary and secondary students. A survey of the extent of private tutoring in selected countries can be found in Dang (2006).

Earlier private tuitions were like a cottage industry, organised in homes and run through personal networks among individual tutors and students. International Encyclopedia of Education also reinforces this description according to which tutoring is a method of teaching in which one student (or small group of students) receives personalised and individualised instruction. Traditionally tutoring was considered to supplement traditional classroom instruction. Various research studies conducted in

different countries have tried to study the international variations in the market demand for tutoring. In some cases private tutoring is rampant where the countries have post secondary entrance exams, major status differences among their post secondary institutions and direct occupational rewards for entry into those institutions (Bray, 1999; Baker et al., 2001; Stevenson and Baker, 1992). The studies conducted have revealed that private tutoring leads to increase in student achievement scores in Columbia, The Dominican Republic, the Philippines, Tanzania and Thailand (Jimenez et al., 1991).

Causes

There are several possible reasons for the growing existence of private tutoring. First, private tutoring can be considered some form of private supplementary education: it thrives in countries where the public education system fails to satisfy the needs of the students—as is the case not just in most developing countries (Glewwe & Kremer, 2006), but also in South Korea (Kim & Lee, 2002; Kim 2005) or Canada (Davies, 2004). In this role, private tutoring is also popular in countries where passing examinations becomes the gateway to further education and advancement in society (Bray, 1999; Dore, 1976). Second, private tutoring can result from corruption in the education system in some developing countries, where teachers require their students to go to their extra classes to supplement their income because they are poorly paid and monitored (Biswal, 1999; Buchmann, 1999). Last but not least, cultural factors can play an important role in the development of private tutoring. Most of the high school graduates in Vietnam prefer to continue their education at college rather than do something else (Dang & Le, 1999); consequently, they are fully prepared to attend private tutoring classes to get admitted to college. Competition in all the fields including education is another factor, which is influencing the practice of private tutoring. The achievement in education is also associated with 'rate of returns'. There is a view that if supplementary tutoring helps people to stay in education systems longer then for those people it may be a very good investment (Psacharopoulos and Patrinos, 2004). As a result it is observed that the society in which education influences the living standard; the private tutoring enhances the benefits. Another factor, which influences the extent of private tutoring, is the existing examination oriented system as the students have to perform in examinations to transit over to other levels of education. It is also observed that in teacher-centred education system also private tutoring is more prevalent. Research studies have revealed that private tutoring is more prevalent in urban areas as compared to rural areas for instance in Cambodia it is 60.6% in urban areas as compared to 9.1% in rural areas (Bray, 1999); In Malaysia 59% of students in urban school receive tutoring as compared to 28.5% in rural areas (Chew and Leong, 1995).

Impact

Private tutoring phenomenon may have significant impact on the different aspects of education system. It may

significantly affect the dynamics of teaching and learning in the mainstream classes. It is observed that private tuitions can significantly help students to understand their lessons better by catering to their individual needs. Private tutoring also enables the children to undertake remedial teaching, the need for which can arise due to number of factors such as availability of experienced and qualified teaching staff, teacher absenteeism, ineffective teaching and negligence on the part of teachers or biased behaviour. "Effective private tuition may help overcome these gaps or deficiencies in students learning and build their confidence enabling them to compete with others and experience a happy and pleasant life" (De Silva, 1994, p.5). Supplementary tutoring may also benefit the brighter/good students to get more out of their mainstream classes. For instance ((Yiu, 1996, p.78) reported that Hong Kong teachers provided positive feedback about the supplementary tutoring in study of upper secondary classes. On the other hand, private tutoring may impede the teaching–learning process in the mainstream classes. Describing the situation in Kuwait it was reported that the students who take supplementary tutoring show lack of interest and even tend to disturb the classes during the classroom processes. They feel that they can get the required help for passing examinations by paying the tutors. Classroom presence is also affected, since there is tendency to attend regular classes only when they are required to do so due to school rules and regulations (Hussien, 1987). Most students tend to rely on private tuitions for everything including homework and exam tips. As a result classroom attention tends to suffer creating discipline problems for schoolteachers. Supplementary or top up teaching is becoming more important than the synergistic classroom experience (in Bray, 2003, p.30).

Impact of supplementary tutoring is not only reflected in students approach towards mainstream classes but also on the teacher's attitude. Efficiency of the tutors as well as students who take tuitions is also affected. Most of the students who receive supplementary tutoring go straight from mainstream to supplementary class. As a result supplementary tutoring produces fatigue in teachers and students. In this context referring to situation in Sri Lanka, de Silva (1994) stated that due to fatigue both teacher and pupil might relax when at school, thereby reducing productivity of that part of each day. Similar observations were made with regard to situation in Malta (de Silva, 1994; cited in Fenech and Spiteri, 1999).

Another significant aspect of school education, which is affected due to private tutoring, is teaching-learning transaction process for achievement of goals set (curricular and co-curricular) for the particular grade level by the education departments. The teaching strategies in tutorial classes/institutes are examination oriented, they transact the curriculum/content according to what they perceive is relevant for success in examination. As a result their approach towards education differs from mainstream schooling and can lead to difficult experiences for the child. For

instance it is reported that in Taiwan "government efforts to introduce constructive approach that enhance the understanding of mathematics have been undermined by the fact that many tutors teach students how to secure correct answers through mechanical implementation of formulae." Foondun (1992) reported that in Mauritius the average hours per week spent on tuition by primary students stood at 5.7 and by secondary pupils at 5 hours (Joynathsing et al., 1988, pp 3 & 6). Since such a considerable amount of student's time is devoted to studies, it is bound to have impact on physical and social development of the child. In fact it was pointed out that children are made to work for longer hours than their parents.

Another major concern emerged as a result of phenomenon of private tuition relates to equity issues in terms of opportunities and affordability of education. It appears that rich people are able to reap more benefits as compared to the poor. This also reflects the prevalent attitude that the more the investment in education larger would be the gains. On the other hand in spite of enormous negative influence of supplementary tutoring it can be argued that since higher levels of education leads to higher economic gains, it may be considered in same light as mainstream schooling (Bray, 2003, p.36).

Thus, the literature reveals that private tuitions is the most common form of tutoring and follows the curricula of mainstream/formal school system and therefore referred as 'shadow education' (Stevenson and Baker, 1992; Bray 1999; Baker et al., 2001). It has assumed the proportions of a parallel system of education to enhance the student's formal school career on the one hand and prepares them for further/higher education. Based on the complex nature and impact of supplementary tutoring on the society as a whole it is felt that this area calls for a wider debate and extensive research in order to understand its implications on quality of school education.

School education in India and private tuitions

School education constitutes twelve years of schooling. While most of the states have accepted the 5+3+2+2 (10+2) pattern of school education, i.e. five years of primary schooling, three years of upper primary education, two years of secondary and higher secondary education each as recommended by the Kothari Commission and suggested by National Policy on Education (1986). Nevertheless, the implementation of 10+2 pattern has not been uniform across states. Some states have attached the +2 stage to tertiary level of education, while others have made it a terminal stage of school education. There is a common curriculum for first 10 years of schooling and at higher secondary stage diversification into different streams of humanities, commerce and sciences takes place.

School education is imparted through schools managed by government, local bodies, state governments and private organizations/ societies/trusts, etc. Central government also manages schools at secondary and higher secondary level namely Kendriya

Vidyalayas, Navodaya Vidyalayas, Sainik Schools, Military schools, etc. which are spread across the country. The number of secondary/senior secondary institutions has increased from around 7500 in 1950-51 to more than 1.6 lakhs in 2005-2006 while the enrolment at secondary and senior secondary stage has increased from 1-5 million to 38.4 million in the same period (MHRD, 2008). Despite the enormous expansion of secondary and senior secondary system data reveals that around 45% children who join schools do not complete even ten years of schooling.

Secondary education is the crucial stage of the schooling system in India. It serves as a gateway to higher education and the labour market. Presently there is a public examination at the end of Class X and the successful candidates are admitted to +2 stage. They are allotted different streams of subjects based on their choice, performance and availability of places. Demand for various subjects is also influenced by the perceptions related to their relevance to future employability prospects. At the end of +2 stage i.e. Class XII again there is a public examination for admission to higher education. These examinations are conducted by National/Central and State Boards of Education established in most of the States. However due to lack of equivalence in the evaluation processes followed by different Boards management of quality aspects of secondary and senior secondary education is a continuing challenge. In addition to this public examination, admissions to most of the institutions of higher education conduct entrance examinations for entry in to reputed professional courses/educational programmes such as engineering, medical, business administration, and also for almost all the academic subjects. These competitive exams are conducted jointly at all India level or individually by the institutions.

During the last two decades along with the mainstream school education, phenomenon of private tuitions has also become widespread to supplement school education. In 1970s and 1980s accessing private tuitions or coaching was limited to academically challenged students and students whose parents were not able to guide their children. There was a social stigma attached to those who needed private tutors for passing their examinations. Yet on the other hand the high performing students also used to attend tuitions but for competing in entrance examinations and that also usually prior to examinations. This was aimed to assess their approach, confidence and preparation for the examination. Thus, during that period these coaching classes fulfilled a need and benefited many. Moreover, the retired experienced teachers, educated family members, students specialising in the required subjects and a few school teachers used to provide private classes. Slowly the scenario changed, more and more school teachers joined the tuition brigade during 1980s. It started emerging as a lucrative practice to earn more money, and students taking tuitions were favoured with the information and content of question papers so that they can secure more marks. This strategy attracted more

students for tuitions. It was also observed that teachers reserved better notes and study material for the students taking tuition from them while during the school hour's extent and standard of teaching declined. This practice further flourished due to our examination oriented education system where marks reigned supreme since examination oriented coaching became a convenient means to get better results. On the one side was regular schools meant for providing holistic education and on the other extreme was coaching/tuition centres catering to only examination needs. As a result the equilibrium started shifting towards these coaching classes and presently the practice of taking tuitions has reached to an extent that attendance in schools is only meant for obtaining official entry tickets for taking examinations.

At the same time, the formal schooling system has emerged as an instrument for developing academic, social and life skills and is being considered as an investment. Written examinations have become the determiners of success/failure as well as opportunities for better placement. Consequently, the present competitive examination oriented educational system has led to seeking learning alternatives like private tuitions/ coaching for enhancing academic achievement. The phenomenal increase in the number of private institutions/ teaching places in India (and other countries), which operate outside the system of formal education and exist parallel to the regular schools and colleges has taken place. It was stressed that although on the one hand they seem to perform supplementary role but on the other side certainly reflect the inadequacy of the regular/formal education (Singh, 1996).Growing number of students are seeking additional help in maintaining or raising their marks through private tutoring. As a result, large numbers of coaching institutes, tuition bureaus have been established even in the interiors of the country. Some of these institutes provide specialised coaching for various competitive examinations at different levels while others work as supplementary tutoring agencies for mainstream education. Although the phenomenon is widespread in urban areas it is growing fast in rural areas. Private coaching has become a big business, totally commercialised with extensive resource mobilisation and employing many people. Apart from the expenses incurred for the mainstream schooling parents invest large sums on private coaching too depending upon the courses taken up by their children. The practice of facilitating private tuition to the children is prevalent not only in case of the students going to government or local body schools but also in private schools. Thus, it appears private tuition system has emerged as a parallel education system with ever increasing demand.

Private tuitions in Delhi

Background

Delhi schools present a highly differentiated composition in response to differentiated demands for school

education. These schools are local body, and government schools; government-aided schools; private unaided schools established by different trusts, private organisations and religious bodies, etc. Besides this there are Kendriya Vidyalayas, Navodaya Vidyalayas, Sainik schools that are established under various centrally sponsored schemes. Thus even among the government run schools there is a large variation in terms of management by Municipal Corporation, Delhi Administration, New Delhi Municipal Corporation and Kendriya Vidyalaya Sangathan and others. These schools include all types of schools such as primary schools, upper primary schools, secondary schools and senior secondary schools. Further the secondary schools under private management have developed their own criteria for school management and functioning under the guidelines provided by Delhi Education Act, 1973, which has been modified in 1990. The private unaided schools except for the curriculum and the final board examinations enjoy a large degree of freedom and autonomy. Government-aided schools in the city and in other states also enjoy some degree of freedom and autonomy in some aspects such as locally elected management committees manage such schools, in many cases teacher recruitment is school based and so on within the rules and regulations provided by the concerned state's statutes (Mukhopadhyay, 2002, p.11). In sharp contrast the government schools are directly under the states' control. In general private schools are for those people who can buy education. Among the private schools also there is large variation in terms type and quality of education they provide. The other group constitutes Kendriya Vidyalayas and Navodya Vidyalayas, established by central government and they are being developed and promoted as pace setters and role models for other schools. Government schools are the major providers of school education to the masses in the city. Efforts for improving the quality of education provided by them are ongoing though goals are still elusive. For instance, in order to provide continuous education some of the middle and secondary government schools being run by Delhi Administration are now converted to schools having all the sections, i.e. from Class I to Class XII and are called as Sarvodaya Schools. In addition some government-managed schools are being developed as Model schools and Prathibha Vikas Vidyalayas to provide quality education.

Sample

This paper is based on the data collected for a study on private tuition in Delhi. As pointed out earlier there is a large variation in education providers in terms of educational institutions namely schools, colleges and universities, large number of coaching centres and tuition bureaus in the city of Delhi and elsewhere. In addition this practice is found to be prevalent at all the levels of education whether it is preparatory stage for school education, elementary stage, secondary or higher education stage. Even for getting jobs, which involves preparation for interviews, coaching is sought by the prospective candidates.

The analysis in this paper will be restricted to secondary and senior secondary stage specifically at Class X and Class XII level where the students appear at public examination. The sample of the pilot study consisted of children studying in Class X and XII of a group of schools who allowed collecting of data related to private tuitions since every school as a policy advocates and insists students not to take private tuitions. These six schools included three government managed (GS) and three private unaided (PUA) schools. The findings are presented and discussed separately for sample of Class X and Class XII students.

Methodology

This study was undertaken to explore different aspects of the phenomenon of shadow education, i.e. private supplementary tutoring or private tuitions taking place in Delhi. This study was conducted in Delhi as it has diverse education providers at school level especially at secondary and senior secondary level. Six schools which allowed collection of data constituted the sample of study. A questionnaire was designed for collection of data from the students. A brief opinionnaire was developed for exploring teachers, views regarding private tuitions. Collected data was then analyzed for both Class X and Class XII students.

Findings from responses of students studying in Class X

The sample consisted of 269 students studying in Class X from five different schools who responded the questionnaires. As pointed out earlier out of the five schools constituting the sample, two schools namely GS2 and GS3 are run by government authorities while the remaining three PUA1, PUA2 and PUA3 are privately managed institutions. The proportion of girls in the sample is 43.5 %.

- Phenomenon of taking private tuitions is common to 83% of students irrespective of the management of school;
- Situation of students taking tuitions was not much different among differently managed schools; yet nearly all the students of GS2 were taking tuitions as compared to others. However gender bias was not indicated;
- Disparities exist in expenditure on private tuitions; 67 % students of GS2, 40 % students of GS3, 53 percent students of PUA1, 40 % of PUA3 were spending around Rs.750 per month on tuitions while 66 % of student's of PUA2 were spending more than Rs.1000 per month on tuitions;
- Type of private tuitions availed by the students are influenced by the paying capacity of the parents. Nevertheless it was observed that parents with low family income spend much larger amount on private tuitions as compared to what they pay for government school education;
- Perceptions regarding difficulty and importance of subjects determines the choice of subjects for taking private tuitions; English (11%), Hindi (2%), Mathematics (72.5%), Science

(55%), Social Studies (2%);

- At the secondary level, i.e. Class X level better understanding and early completion of courses for increased achievement is driving force for taking tuitions; on an average students spend around eight hours per week on tuitions; further taking tuitions in smaller groups is preferred.

Findings from responses of students studying in Class XII

The sample of Class XII consisted of the students from all the six schools namely GS1, GS2, GS3, PUA1, PUA2 and PUA3 studying in arts, commerce and science streams. The total sample size was 648 students containing 275 girls and 373 boys.

- Phenomenon of taking private tuitions is common to 77% of students irrespective of the management of school; private tuitions in arts, commerce and science stream was found to be 62%, 84% and 78% respectively;
- Gender wise distribution of students taking tuitions in Arts stream was 58% boys and 68% girls; in commerce 88% boys and 78% girls and in science stream 46% of girls and 55% of boys were found to take tuitions. Around one third of students studying in science stream indicated that they would be joining the new batches starting next month for their tuitions, however gender bias was not indicated;
- Situation of students taking tuitions was not much different among differently managed schools;
- Type of private tuitions availed by the students are influenced by the paying capacity of the parents. Nevertheless it was observed that parents with low family income spend much larger amount on private tuitions as compared to what they pay for government school education. Nearly one fourth were spending more than Rs.1200 per month; on an average each student was spending between Rs.750–Rs.1000 per month on tuitions. Expenditure made by 35% of girls was around Rs.1000 per month and 21% were spending more than Rs.1200 per month. Only 3% of students pointed out that they have enrolled in coaching institutes for competitive examinations and have paid exorbitant sums in the range of Rs.40,000/–Rs.60,000 for Class XI and XII;
- Perceptions regarding difficulty and importance of subjects determines the choice of subjects for taking private tuitions; English (12%), history (6%), Business Studies (6%), Political Science (11%), Accounts (80%), Physics (79%), Chemistry (65%), Biology (15%), Mathematics (70%), and Economics (45%);
- At the Senior secondary level, i.e. Class XII level increase in achievement and success in competitive examinations is the motivating factor for taking tuitions; time spent varies from students studying in arts, commerce and science streams and is largest for science students; Students prefer to study in groups;
- Expenditure on private tuitions is much higher at senior secondary

stage and expenditure in case of students studying in science stream was higher than commerce students. Students studying arts stream were found spending the least;

- Students studying arts and commerce subjects reported better understanding and solving of individual difficulties as the major reason for taking tuitions while in case of science students in addition to solving of difficulties, preparation for competitive exams was the determining factor.
- The study revealed that private tuition system is running after school hours on the working days and during weekends and holidays;
- Parents and teachers are in support of private tuitions due to existing competitive environment and argue in favour of specialised coaching as educational achievements at this stage determine the future prospects.

Implications of private tuitions on quality of secondary education

The findings of the study revealed the large extent to which practice of private tuitions has spread. The increasing trend of availing private tuitions indicates strongly about the lack of quality of education provided in the educational institutions. Consequently, the phenomenon of private tuitions has major implications on the following dimensions of school education system to improve the quality of secondary education system in the country:

- The rigidity of formal school education system may be one of the reasons encouraging parents to invest resources in private tuitions for their children. This has significant impact on equity, equal opportunities and access issues in education. There is need to develop inherent flexibility so that students have more choice in selecting courses as per their aptitudes. In addition provision of quality education in all schools could be realized through relevant policy formulations and effective implementation of these planned interventions for reducing gender bias and promoting equity.
- Curriculum and content of the syllabi of different grades need to be reviewed and restructured regularly to make it relevant and skill oriented to cater to the present needs and restricts promotion of rote-learning/ memory based education.
- In order to reduce the demand for private tuition need for change in the existing examination oriented education system is reflected. Subject-specific interventions and strategies need to be developed for reducing the dependence of learners on private tuitions. The shift from examination oriented education system to learning competencies to face the challenges of increasing competitiveness for gaining admissions to institutions of higher learning.
- Employment opportunities and better carrier options are associated with the quantity and quality of education received. The study reveals that private tuition is gaining popularity even among the high achievers to improve and maintain their high performance. Moreover it appears

that tendency to take the private tuitions is increasing in all the students whether they are in high achieving private schools (mostly high fee charging) or in government schools. Therefore a system at national level may be developed for transition to higher education level instead of differentiated institutional policies and practices. In depth analysis for the need for private tutoring is ascertained to formulate policies for unhealthy practices in private tuitions.

- Strengthening of the available classroom teaching learning facilities is essential. But this will only be possible when concerted efforts would be undertaken to improve the existing situation of education facilities through efficient management and sound monitoring system. Initiatives for peer tutoring could also restrict the need to go for private tuitions.
- The demand for private tuitions comes from both parents and students. In case the tuition providers are teachers of the schools one of the reason cited specially in case of private schools includes supplementing there low salaries. In this context government should look into ways of sufficiently remunerating teachers in order to enhance their motivation. Secondly when mainstream teachers provide tuitions to the students other than they teach in mainstream system, they are no different from any other entrepreneur who could and with skills also provide the service. In such cases teachers may be tempted to relax during normal teaching hours and if their salaries are not based on specified and measurable outcomes, it is important to develop a clear monitoring system, if private tuition is accepted as a policy option.
- High student teacher ratio in the classroom also promotes private tuitions. This calls for regular in-service training to improve teaching learning methods for incorporating active interventions during curriculum transaction.
- Independent entrepreneurs like students, educated unemployed youth, and educated housewives represent a different class of tutors. In some cases tuition provided by them is well recognised but in other cases there is no means of benchmarking. There is need to develop standard benchmarks within which tuition providers operate. There is need to take steps for its legitimisation and regulation in the existing educational set up.
- The initiatives by the different state governments to ban private tuitions by mainstream schools teachers have not delivered the desired results. The context in which private tuitions are ongoing should be considered critically before supporting or condemning the widespread phenomenon of shadow education.

Thus, concerns related to quality of provisions and processes in the schools raise their heads again every year when National and State Board examinations results and process of admissions to

higher education institutions begin. Nearly half the students are not able to achieve even the basic minimum required for passing the secondary and higher secondary stage. In view of the fact that around one third of the persons of the relevant age group join secondary schooling this trend is quite disturbing. Further the still smaller proportion i.e. around 10-12 percent of persons going to higher education has to struggle through various competitive examinations. The ills of private tuitions contribute significantly to this situation. Time and again it has been emphasized that although quality of education is an elusive concept, yet provision of good physical and academic infrastructure along with supply of high quality human resources, both for imparting instruction and for governance of the system, are critical to achieve good quality education. However, the widespread practice of private tuitions is evidence that we have failed miserably in providing quality secondary education.

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The Teaching-learning Conditions for Quality Education in inclusive Schools

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Abstract

There has been recent theoretical and policy interest in the two areas of quality education and inclusive education. Inclusive education has been already launched in our country through Sarva Siksha Abhiyan. This paper discusses the concepts of quality education and inclusion and then reflects at the Indian scenario with a focus on teaching-learning conditions in schools where inclusion is promoted.

Introduction

There are two terms 'inclusion' and 'quality education' which are in much circulation and use these days. While inclusion was stimulated in part by the Salamanca Statement (UNESCO, 1994), and by a 'rights' agenda (Evans & Lunt, 2002), quality education gained prominence from Dakar Framework of Action (World Education Forum, 2000). The two terms bear concepts which are of much importance, and when combined together – quality education in inclusive schools becomes all the more important and relevant in the present Indian context.

Inclusion

The inclusion movement was born in the early 1980s with the advent of the Regular Education Initiative (REI). Special education, which continued to grow as a separate system, unintentionally segregated students with disabilities and thereby leading to REI. The reform in special education increasingly became symbolised by the term 'inclusive schools' (Fuchs & Fuchs, 1994, p. 299). But there is no one view about inclusion (Fuchs & Fuchs, 1994), rather a wide range of different conceptualisation and definitions of 'inclusion' exist (Evans and Lunt, 2002), which encompass a number of confusions (Hornby, 2001).

Full inclusion

Inclusion or 'full inclusion' is a principled and ideological stance as promoted by Thomas (1997), who suggests that "inclusion must be at the heart of any society which cherishes.....a liberal political system and a pluralistic culture: one that celebrates diversity and promotes

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fraternity and equality of opportunity" (p. 106). The 'inclusive school' according to advocates of 'full inclusion' denotes a place rid of special educators where *full* inclusion reigns (e.g. S. Stainback & W. Stainback, 1992). According to these advocates, "the concepts of Least Restrictive Environment – a contimum of placements and a cascade of services were progressive when developed but do not today promote the *full* inclusion of *all* persons with disabilities in *all* aspects of societal life" (Lipsky & Gartner, 1991; p. 52, emphasis in original). Therefore, "an inclusive school or classroom educates all students in the mainstream. No students, including those with disabilities are relegated to the fringes of the school by placement in segregated wings, trailers, or special classes" (S. Stainback & W. Stainback, 1992, p. 34). The advocates of full inclusion believe that "eliminating special education....will force general educators both to deal with the children it heretofore had avoided and, in the process, to transform itself into a smore responsive, resourceful humane system" (Fuchs & Fuchs, 1994). The focus of 'full inclusion' is "on socialization skills, attitude change and positive peer relations" (Fuchs & Fuchs, 1994, p. 301).

Cautious or responsible inclusion

The other held views on inclusion are that of 'cautious inclusion' (Kauffman, 1995, Fuchs & Fuchs, 1994) or 'responsible inclusion' (Vaughn & Schumm, 1995, Hornby, 1999). The critics of 'full inclusion' proposed these forms of inclusion. They criticised full inclusion on the grounds that "the quest for full inclusion contains a measure of expressive zeal which denies some of the realities of disability" (Low, 1997). Farrell (2000) pointed out "the very real difficulties one can get into if arguments about inclusive education are pursued solely in terms of human rights". The primary concern of these critics is "strengthening the academic performance of students with disabilities and those at risk for school failure" (Fuchs & Fuchs, 1994, p. 301). They did not advocate an end to special education; rather they wanted the teachers and administrators of special education to have a role in such inclusion. This view gets support from Reynolds (1989) who says, "We need to move special teachers (of students with mild disabilities) into mainstream structures as co-teachers with general teaching staff where both groups share in the instruction. The special education teachers can lead in such matters as child study, working with parents, and offering individualised, highly intensive instruction to students who have not been progressing well" (p. 10). Pijl and Meijer (1991) concluded from their study that 'the countries seem to agree that at least 1.5 per cent of the students are difficult to integrate on a curricular level in regular education'. According to Palmer et al. (2001), parents who oppose inclusion largely indicate that the severity of their children's disabilities precluded any benefit from such programs or that the general education classroom program would not be educationally appropriate or welcoming to their children. O'Brien (2001) in a recent volume on 'enabling

inclusion', very rightly suggests that, 'we have to answer, with integrity, the questions about where and how a pupil learns best' (p. 49).

It has been pointed out by Norwich (1996, 2000 b) that the field of special needs education demands the balancing of multiple values such as those of quality, individuality, social inclusion and practicability, and the tolerance of 'ideological impurity'.

Quality Education

The World Bank while trying to define quality in education in the report 'Priorities and Strategies for Education' (1995) observed that "quality in education is difficult to define and measure. An adequate definition must include student outcomes. Most educators would also include in the definition the nature of the educational experience that help to produce those outcomes – the learning environment" (World Bank, 1995, p. 46).

Quality has also been dealt from a perspective of quality assurance and quality improvement as done by Morgatroyd and Morgan (1994) who give three basic definitions of quality:

1. Quality assurance which refers to "the determination of standards, appropriate methods and quality requirements by an expert body, accompanied by a process of inspection or evaluation that examines the extent to which practice meets these standards".
2. ".....contract performance, where some quality standards have been specified during the negotiation of forming a contract."
(3) "Customer-driven quality refers to a notion of quality in which those who are to receive a product or service make explicit their expectations for this product or service and quality is defined in terms of meeting or exceeding the expectations of customers." (p. 45-46).

Another aspect of defining quality in education is whether quality is only a matter of learning things well. It has been argued by Education International (2004) that what you learn is also of crucial importance. "From this perspective quality is to learn the right things and to learn them well. It is not good enough to learn the right things only half well and it may be even worse to learn the wrong things well." (Education International, 2004).

Coombs (1985) in his description of quality says, "quality (.....) also pertains to the relevance of what is taught and learned, to how well it fits the present and future needs of the particular learners in question, given their particular circumstances and prospects. It also refers to significant changes in the educational system itself, in the nature of its inputs (students, teachers, facilities, equipments and supplies); its objectives, curriculum and educational technologies and its socio-economic, cultural and political environment." (p. 105).

For the sake of this paper, the definition of quality education (as adopted from ETUCE, 2002) is given as 'the education that best fits the present and future needs of the particular learners in question and the community, given the particular circumstances and

prospects. The quality concept also has to embrace the development of the potential of every member of each new generation.'

Providing quality education is the most obvious way for our country to move forward to secure the future of millions of children, improve the quality of life, sustain economic progress and promote social justice (Shivakumar, 2003). It is also the best way for our country to get rid of the tag of underdevelopment and backwardness by 2020 (Shivakumar, 2003) and compete in the global economy.

With this in background, it is pertinent to discuss the difficulties and problems encountered in our schools in delivery of education and what can be done to provide quality education in inclusive regular schools.

1. The Overburdened Teacher

In the present times, teaching is becoming a more and more complex task. A teacher has to perform the function of teaching, class management and guidance. Within teaching, a teacher has to plan his lesson, prepare or search appropriate teaching aids, teach in the classroom, give exercises and drill lessons, conduct unit tests and examinations, evaluate the students, prepare marksheets. Besides, he/she also has to organise and conduct co-curricular activities and engage in many other academic tasks.

Another function of a teacher is controlling the children and management of class (Bhatia & Bhatia, 1964). A teacher meets a large number of children and young persons from different backgrounds with varying kinds of nature and abilities. Therefore, "it is no easy task to handle a class of children of different temperaments and varying tastes. There are shy children, extrovert children, mischievous children, and inattentive children." (Bhatia and Bhatia, 1964, p. 9).

Guidance is another important function of a teacher. He/she has to guide the students to right thinking and doing, to make right choices and decisions.

Meeting the parents, giving them feedback about their children's performances and listening to them is yet another duty of a teacher.

In addition to this, teachers are given more and more responsibilities like in mid-day meal programme, and engaged in other government duties such as election, census survey, and verification of ration cards (TOI, 2.8.05, p. 4).

With such a heavy work load, how can we expect a teacher to do justice with the teaching profession and that too when he has to teach the mixed group of students including slow learners, gifted students and different ability groups? Every student (able or with disabled) has different learning ability, different learning style and pace of learning. It is not hard to realise then that this makes difficult for a teacher to identify the appropriate level at which to teach, assess students' work and progress and evaluate one's own teaching.

Therefore, for quality education in inclusive school, teachers' burden must be lessened. With excessive load, teachers at their work places may undergo stress and tension which may lead to reduced efficiency and

productivity on the part of the teacher, and thereby bring down quality of education in inclusive setting.

2. Overcrowded Classes

The students' strength in the classes is unusually high in our schools, 1:100+ is the teacher-student ratio in schools of rural area of east U.P. (Kumar, 2004). Kumar (2004) is justified in saying that, "the idea that someone can use innovative methods to cope with that kind of ratio is a joke." Beginning teachers get reality shock when they face the real teaching situation after having completed practice teaching (Singh, 2004) in smaller classes with limited number of students. The teacher-pupil ratio of 1:40 which is considered an ideal one is often not met in the classrooms in villages, where there is a surge in public interest in education, as in U.P. (Kumar, 2004). Looking at the present circumstances there is less likelihood of reaching this ideal ratio in the immediate future.

To think of inclusive education and that too quality education in such an adverse situation where there is scarcity of teachers, is not only unrealistic but impracticable and unachievable. As Humayun Kabir has said, "teachers are the key to any educational reconstruction", without them we cannot possibly think of any education, leave aside inclusive education in regular schools.

The class-size needs to be reduced to give attention and care to all the students in general and the students with disabilities in particular. Many parents of children with disabilities would perhaps be reluctant to send their children to such classes where proper care and attention is not given to them. Teachers' caringness and their attention to individual child are considered important and satisfying by the parents of children with disabilities (Green & Shinn, 1994).

So, more preparation of teachers and appointment of teachers is needed immediately to deal with the problem of educating the surging mass of students and improving the teacher-pupil ratio in our classrooms. Then only can we go ahead with the idea of inclusive quality education in general schools.

3. Scarcity of Special Teachers

There is an acute shortage of well-trained special teachers who are must for 'responsible inclusion'. Placing children with disabilities into regular education classrooms where there are no special teachers or resource teachers is tantamount to 'dumping' them. Specialists of all kinds are needed who can provide services to any student who may be in need. On the other hand, special teachers or resource teachers derive strength from the subject specific expert knowledge of regular teachers. Regular teachers with their expertise can help in teaching of concepts, application of concepts and principles related to specific subjects, such as, life sciences, mathematics or languages through innovative methods and devices.

Cooperation between special education and general education is necessary for 'responsible inclusion'. What the regular classroom teacher lacks can be improved by the infusion of

special teacher and vice-versa (Panda, 2003). In this way, the quality of education in inclusive schools can be ensured.

Since there is a dearth of professionally trained special teachers in our country, we can make do with itinerant resource teachers but they should be there in school daily for few hours. Unless this is met, quality education for students with disabilities will remain doubtful. It is advocated that more special teachers be prepared so that every regular school can have them.

4. Support System

Appropriate and adequate support services are needed for 'responsible inclusion' in regular schools. The school building and surroundings around it should be made barrier-free so that access to various parts of the school is easy for all children. It is seen that many schools even those with expensive architectural building, are devoid of ramps, hand-rails, low-level water taps, disabled-friendly toilets and signboards.

Children with disabilities sometimes require an intensity and systematicity of instruction uncommon to general education classrooms (Fuchs & Fuchs, 1994). Advocates of children with hearing and visual impairments fiercely support specialized services to their children. So, the school must have resource room facility where children with special needs can be given extra needed support. The equipments related to education should be easily available for the child when in need. The special equipments should be provided in the classroom too, where inclusive education is imparted to meet the special needs of students, if and when required. For example, classroom amplification systems, a form of assistive learning device, are needed to link teachers to students with hearing impairment. Similarly, anti-glare blackboards are needed for children with low vision and partially sighted.

Conclusion

The philosophy behind inclusion is praiseworthy but what is questionable is how we put theory into practice, how do we bring about inclusion and maintain quality in inclusive schools. Responsible inclusion is justified but even for this we need to overcome the difficulties and problems which exist in our regular schools. It will not be fair to compromise on quality in the name of inclusive education. Hence, the teaching-learning conditions must be changed as suggested and made suitable for the purpose.

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Community College—A means to Meet the Needs of the Excluded in Higher Education

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Abstract

At the end of the twentieth century a number of community colleges were established in Tamil Nadu to reduce the mismatch between education and employment. Roughly a decade has passed by since establishment of such colleges in Tamil Nadu and therefore, it is the right time to evaluate the functioning of such colleges in achieving the expected goal. The present paper is one such modest attempt made on community colleges to evaluate in terms of number of colleges started and their governance, their location, courses offered, students' enrolment pattern in various courses and their pass-outs from 1998 – 2005. To facilitate the evaluation, an empirical study was conducted by making personal visits to some selected community colleges to understand the students' perception towards such colleges and the findings are discussed in the paper.

Introduction

Education is the manifestation of knowledge already in man. It is also a continuous process of perfecting the inherited as well as learnt knowledge skills to serve the society. It could be much better and useful when provided at a right stage. The number of schools, colleges, and universities have increased manifold. However, the right type of education is not being imparted to the young learners. A large number of students coming out of these institutions being unable to find suitable employment moreover, not being fully equipped to face life and its challenges. As a consequence, unemployment is persisting in all the developing countries and is increasing over the years. It is necessary to ask the question, for whom these educational institutions, if they do not prepare young men and women for life in the real world. Indeed, education which is provided both through the formal as well as non-formal education centres has not created confidence in the student community. On the other hand they have made them depend upon the outside agencies. We need education which is not only competitive, but also seen to be fair, and closely linked to employment opportunities. Combating

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the two may be able to satisfy better requirements of both ability and aspiration of the school leaving students. Therefore, it is felt need to respond the deficiencies of the vocational education system through proper industry-institutional linkage, competence assessment, and on-the-job training on the basis of local needs. Hence, community college can be an alternative system of education to liberate and empower such desperated groups of society and to include the excluded in employment opportunities by imparting the needed skills for their livelihood.

Community College: An Educational Alternative

The concept of community college is an innovative and recent phenomenon. Philosophically, community college is one that accepted the responsibility for providing both transfer to higher education regardless of financial resources and also prepare for some occupation. It is an institution which satisfies the demands of the community both for post-higher secondary education and for middle-level manpower of the nation. It is expected that community college would accommodate all applicants; over-achievers as well under-achievers. In other words, it is an educational institution of the people by the people and for the people. Community college is a twentieth century phenomenon, generated by three principal forces. First is the growing trend to reject the elitist view of higher education. Next is the tendency of government and of industry to view higher education as a only source of trained manpower and finally, there is the need created the technological explosion to supply theoretical scientists with a support structure, comprised of technicians.

Community college is an American concept, but is not new one to Indian education because it was already recommended by Sampurnananda Committee on Emotional Integration, way back in 1962 to provide skills and work-oriented education to meet the needs of the students who have finished school. The original concept of community college modified and adopted according to Indian situation. However, it has been started in India only in 1995. Community college system specifically focuses on the education for livelihood. It is expected to promote job-oriented, work-related, skills-based, and life-coping education to the unreached section of the society. Access is the keyword to the community college. They are cost-effective, offering low cost, quality programmes to specific needs of a variety of clients. Therefore, it attracts the poor of both rural and urban, and women.

Need for the Study

The traditional colleges and universities are elitist in their approach to higher education, and aimed at preparing students for degrees. Students passing out from such educational institutions are expected to fill up leadership positions in the society and the economy. All such institutions paid scant attention to the educational and training needs of the growing number of persons entering middle level positions where competence

rather than degrees matter. In this way the traditional colleges are unable to satisfy the educational needs of the contemporary society and aspirations of the people. Hence, community college would be a major instrument for fulfilling this gap and would be an alternative arrangement in higher education to satisfy the educational-occupational needs of the community.

The idea of community college is considered to be an important part of restructuring Indian education. It has been gained the international significance already, for dealing with large numbers and training of middle-level manpower for the economic and social needs of a nation and now in our country. It is a new social invention to intervene structurally, between the school and the university though it being a part of the higher education and not of the school. In India, community college is intended to serve the students of the adolescent age-group, but it is flexible to everyone in the community from the community of the very aged. Courses of study and duration are formulated in relation to the demands of the community and national needs of educational vocational choices for consistent of individual aptitudes and manpower requirements at different levels.

During the end of the twentieth century private initiatives have been taken to establish institutions based on the American community college model in India. These institutions come up because of the vision and commitment to make the difference and create an educational alternative in the country and therefore, many community colleges were started, particularly in Tamil Nadu and spread over in the entire State. However, the concentration of community colleges is found to be more in southern districts of Tamil Nadu. It is the right time to recognise that the community college has an identity of its own though it is a part of the totality of education. It occupies a strategic position and had productive relationship with higher secondary schools and college and university system. Hence, an attempt has been made to conduct an evaluation on these colleges; therefore, the present article is an outcome of a detailed study on some selected community colleges of southern districts of Tamil Nadu.

Objectives of the Study

The present evaluation on community colleges was carried out with the following objectives.

(a) To assess the nature and growth of community colleges in South Tamil Nadu;
(b) To understand the students' enrolment pattern and their pass-outs in various courses offered through community colleges;
(c) To assess the infrastructure facilities made available at community colleges;
(d) To understand the socio-economic background of the students studying in community colleges; and
(e) To know the students' attitude towards community college, the courses offered and their plan for future.

Research Design

For the purpose of the present study particulars about the number of

community colleges with started year, courses offered, students' enrolment and their respective results from the beginning 1998 to 2005, its governance, and so on were collected. To support the present study, an empirical study was conducted on some selected community colleges. For this, of the total of 32 community colleges functioning in Kanyakumari, Tirunelveli, and Tuticorin districts, four of them were randomly selected as sample. From these four colleges, 100 students were selected as samples from a total of 220 students. Efforts were taken to include the student-respondents from all the courses offered in these colleges.

The required data were collected from the selected 100 student-respondents by using a structured interview schedule prepared for them. In addition to the interview schedule each college office was approached for collecting details regarding its origin, governance, structure, functioning, composition of courses, and infrastructure – by making personal visits. To arrive at general conclusions the collected data were analysed and interpreted by using descriptive methods like percentage, proportion, ratio and average and presented in summary form. No attempt has been made to form hypotheses since the sample size was too small and accordingly to test them.

Community Colleges in Tamil Nadu: An Appraisal

The number of colleges functioning, their location, governance, courses offered, students' enrolment and their pass-outs in various courses of community colleges from the beginning are analysed in this section. The analysis reveals that the establishment of community colleges in south Tamil Nadu starts from 1998 and a total of nine colleges were started at that time. The total number of community colleges is increased to 42 at the end of the year 2003. However, the number of colleges declined to 32 because the University's approval has been withdrawn for 10 colleges during the year of 2004–2005. They are serving for the community in three southern districts – Kanyakumari, Tirunelveli, and Tuticorin – of the State and at present, there are a total of 32 community colleges functioning in these three districts. Of the total colleges found in these districts 46.9% of them are in Kanniyakumari, followed by Tirunelveli (37.5%), and Tuticorin (15.6%). All they are affiliated to Manonmaniam Sundaranar University, Tirunelveli. Figure 1 portrays this.

It is observed that about 60 per cent of the total community colleges are in rural areas while the remaining 40 per cent serving the needs of the urban community proves that most of the community colleges functioning in the south Tamil Nadu are responding to the educational needs of the rural community and hence the proclaiming of "Find the need and meet it" has been realised.

The colleges are run either by NGOs, Charitable Trusts, or Christian Missionaries. While considering the number of courses offered in community colleges, a minimum of three courses having been offered in some colleges and ranged upto six in some colleges. It is to

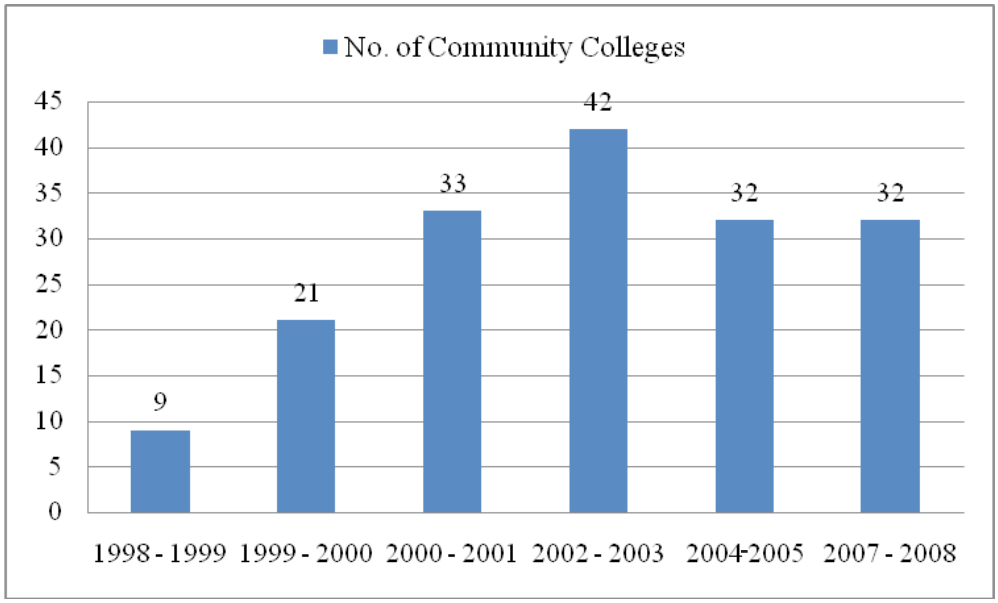

Fig. 1 : *Year-wise growth of Community Colleges*

be noted that there are a total of 26 programme-courses have been offered through community colleges in these three districts. Most of the colleges offer Computer Applications, Female Nursing Assistance, Pre-school Teachers' Education, and Medical Laboratory Technology courses for study since they are wanted by the majority. Both sexes are admitted in all colleges and, however, some courses like Four Wheeler Mechanism, Two Wheeler Mechanism are kept away for females similarly Pre-school Teachers' Education, Female Nursing Assistance, Home Nursing and Home Remedies, and Tailoring and Embroidery for males.

The wide range of programme-courses of community college has led to the adoption of an open admission policy based on minimum qualification but without the requirement of any college admission tests which are usually imposed by traditional colleges and universities. Its easy accessibility, open admission, opportunity for low-cost learning, and on-the-job training arrangements attracted the students – particularly poor – towards community colleges. It is proved through the present study that enrolment of students in the courses of community college has been increased from 2.7 per cent to about 20 per cent from the beginning that is from 1998 to 2005. Figure 2 evidences this.

Enrolment and Pass-outs

While considering the students' enrolment in various programme-courses offered at community colleges during the reference period it reveals that three-fourths (75.4%) of the total

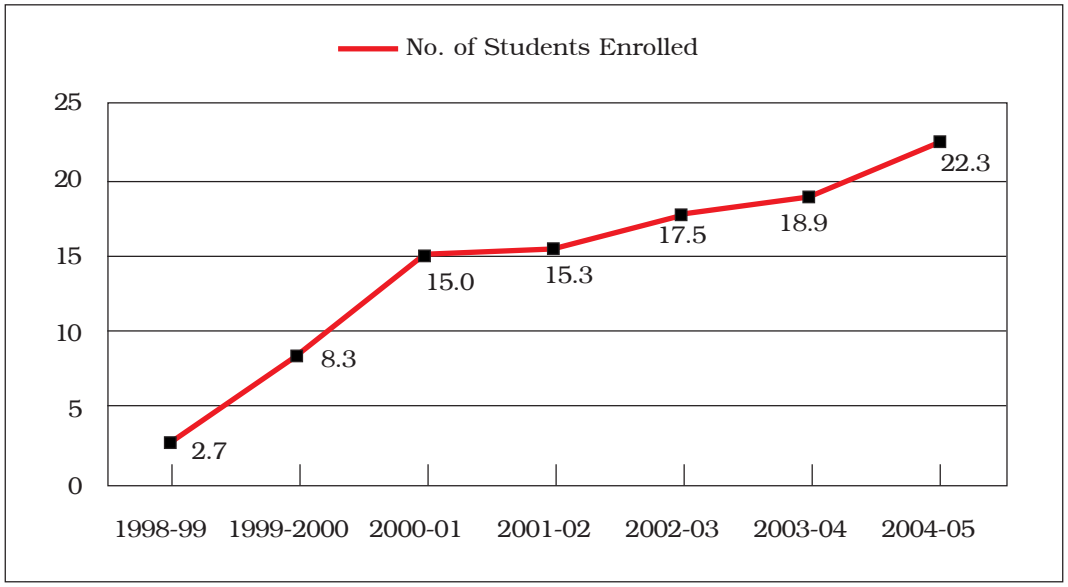

Fig. 2 : *Students' Enrolment in Community Colleges: 1998–2005*

students studied Female Nursing Assistance (32.1%), Pre-school Teachers' Education (17.9%), Medical Laboratory Technology (13.4%), and Computer Applications (12%) that shows students' preference towards courses for study in community colleges.

The analysis of students' pass-outs in various courses offered at community colleges indicates that 100 per cent results has been achieved in courses like Multipurpose Rural Development Work, Marketing Management, Integrated Farm Development, Two-wheeler Mechanism, Drugless Therapy, Home Nursing and Home Remedies, Tailoring and Embroidery, and Dairy Management and Technology whereas the lowest results (87%) achieved in Physiotherapy, and Information Technology courses. It is important to note that, of the total students (8,856) appeared in final examinations an average of 97 per cent of them (8,566) obtained diplomas that proves the success of community colleges.

As far as the status of the four community colleges included for the study is concerned two of them are run by Christian institutions and the remaining two are by a non-government organisation (NGO) and a community's trust, each respectively. These organisations, who have ventured into community colleges, run many educational institutions like schools, polytechnics, I.T.I., and colleges. Three of the selected colleges are located in rural while the remaining one is in an urban centre. All the four colleges are started between 1998 and 2000. They offer one-year Diploma programme in

Female Nursing Assistance, Four Wheeler Mechanism, Medical Laboratory Technology, Computer Applications, Printing Technology, Computer Technology, and Pre-school Teachers' Education and admit 30 students in each course as restricted by the University and offered four of these courses at the maximum.

All the community colleges under the study are equipped to run computer-based courses and have atleast one computer for two students (1:2). While analysing the infrastructure facilities provided at the community colleges, sports, retiring, and hostel facilities are in progress; students are provided of drinking water adequately and the facilities like lavatory, cycle stand, and library are provided.

Who's Coming to Community Colleges

To understand that who is coming to community colleges the student-respondents' socio-economic particulars regarding their sex, age, birth order, religion, caste, parental occupation and their monthly income, place of residence and distance to college, annual expense for their education, and marks secured at higher secondary school leaving examinations are concerned. The analysis of them reveals that more than half of the total strength (60.9%) of the community colleges are girls. Hence, the same truth is reflected in the sample (62%) also. It is found that 56 per cent out of the total students are hailing from rural areas. It is important to mention that community college attracts mostly fresh candidates (81%) who are below of 20 years old. The mean age of community college student is 20. It is evidenced through the present study that a large majority (90%) of the total students have joined the colleges after 'plus two' course while there are some graduates as well as those discontinued their degree courses, and about three-fourths (73%) of the total pursuing Diploma in Four Wheeler Mechanism (28%), Computer Applications (26%), and Medical Laboratory Technology (19%) that shows their interest on professional courses.

The concept of the 'including the excluded' has been realised through community colleges since three-fifths (60%) of the total students belongs to Backward Castes whereas Scheduled Castes and Most Backward Castes constituted 21% and 19%, each respectively. Though atleast two colleges under the study are run by Christian affiliated institutions, Hindus (65%) have joined in large number. However, Christians (29%) constituted a sizeable part. The proportion of Muslims is found to be only 6 per cent in the total.

It is clear from the study that community colleges provided chance for candidates with varied background students from all walks of life and have made use of such concept since the students reckoned from Government service (27%), Business (26%), Agriculture (25%), and daily wagers (22%). Therefore, it is understood that the concept of 'equality of opportunity' has been achieved through community colleges.

Community colleges are being utilised by the poor and the needy is evident from the students' parental

income. Their parents earns an average of Rs. 3, 840 per month. It is to be noted that the concept of community college has reached smaller families where there is an average of five members and among them the second child has the maximum chance to make use of such colleges.

It is found that large majority (85%) of the total students selected the course themselves and are not forced. A large number of them sought admission in these colleges because of short duration of courses, employment-oriented courses, and low fee structure. It is significant to mention that low tuition cost attracted many students towards community colleges. It has been evidenced through the study since the average expense for the students is Rs.5, 930 per year and therefore, almost all they are satisfied towards expense for continuing their education in community colleges.

Nearly three-fourths of the total students are living within an average of 6.3 kilometre radius from their college, but the distance is not a major problem to commute their college for some students. Half (50%) of the total students reache college either by bicycle or by foot. What the present study evidences that the proximity of these colleges to their place of residence is found to be one of the important factors for the selection of a particular community college for study by the students.

Community college provides opportunities for under-achieved as well as over-achieved students. It is proved through the present study since about half (48%) of the total students secured 600–700 out of 1200 marks in their higher secondary school (+2) leaving examinations. Another 47 per cent in the total secured 700–900 marks. Therefore, it is significant to note that the students who secured an average of 733 (61%) out of 1200 marks seek admissions in community colleges that evidences the importance of such colleges for educationally poor students.

TABLE 1
Mean for Some Selected Variables

Variable	*Mean (N=100)*
Parental monthly income	Rs. 3,840
Household size	5
Students' birth order	2
Students' age	20
Marks secured in +2 (out of 1200)	733 (61%)
Annual expense	Rs. 5,930
Distance to College from place of residence	6.3 km
Student-computer ratio	2:1

Students' Perception

For the evaluation of community colleges, as a part of the present study students' perception towards students union, arrival of experts for conducting classes, infrastructure facilities availed for them, fee structure, entrepreneurial as well as job opportunities, and the functioning of community college are collected.

While probing is there any organisation for students in community colleges it is found that none of the selected colleges provided the chance for the students to form "Students Union". Of course, the majority of the students strongly felt for it both to press their demands (50%) and express themselves (42%) whereas only few (8%) opined that short duration of the course would not accommodate students union.

It is found that a large majority (72%) of the total students agreed that special classes used to be conducted in their colleges by outside experts. Most (68%) of them said that internship is arranged by their college managements from time to time and nearly three-fourths (73%) of them are satisfied with the usefulness of the practicals/internships made by their colleges.

Most of the students are satisfied about the classroom, facilities provided for practicals and qualification of teachers, and expect more as far as laboratory facility is concerned. All the students of Four Wheeler Mechanism expressed their willingness towards workshop facilities in their college premise. Most of the students are satisfied about the facilities, viz., drinking water, lavatory, cycle stand, and library.

None of the students paid capitation fee for their admission. A vast majority of the students (94%) are in satisfaction about the fee structure for the course. Likewise, the perception of the majority of these students (84%) about expenditure for the course is that of moderate one and more than half of them felt that studying in community college is worthy for time and expenditure.

It is found that a large number (70%) of students are not ready for entrepreneurship risk immediately after the completion of their course as it is costly experiment, and therefore, they prefer experience in job before venturing anything new. More than one-thirds of the total students said that they do not have the necessary capital for starting up self-employment avenues. However, many of them are positive that they could arrange money either from their parents or banks and most of them have positive perception about their parental support to self-employment openings.

The fact that more than half of the total students (58%) are sure about that the community college could alleviate the problem of unemployment whereas another one-fourths in the total does not have any idea regarding this. However, all the colleges making arrangements for on-the-campus interview for their students' job-placement, since almost all of them would like to have. Of course, nearly half of the students (48%) know about the prospects of getting attractive jobs with community college's certificates.

For many students specially designed courses, positive image about community college, parent's wish, and absence of nearly college are the

important factors for the preference towards community college. It is significant to note that about half of the students (49%) do not have any idea about university's role in running the community colleges. However, all they opined that universities should take over community colleges for proper administration, lesser fees, recruitment of efficient teachers and safeguarding them from capitation fee in future. It is to be noted that nearly one-thirds (31%) of the total students do not know the difference between polytechnic, I.T.I, and community college while nearly another two-thirds in the total knew the distinction among these three and also about the courses offered, their duration, fees and teaching, etc. Very few (12%) understood the community college and the nature of duration of the courses. While asking the students' perception about the positive changes in the functioning of community colleges more than half of them (53%) do not have any idea regarding what kind of changes that are possible to make for the effective functioning of such colleges. It is important to note that almost all the students want the teaching language should be their mother tongue.

Conclusion

We may conclude from the present study that the community college has come a long way and going to stay as a viable alternative to empower the disadvantaged, underprivileged, and excluded through imparting them appropriate skills and making them gainfully employed than the conventional transfer courses offered by a large number of colleges and universities across the country. However, there is a lag found in venturing of community colleges after 2004 so that the factors for such stagnation have to be identified and to be solved. It is an opportunity to encourage community colleges to offer skills, and work-oriented education to meet the needs of the students who have finished formal school education and hence, it would be a multi-campus reality for skill-based education. To impart entrepreneurial interest in students a counselor would be appointed in community colleges and guides for venturing self-employment to be availed to them. As a result, the student community can make use of these job-oriented courses, instead of moving towards transfer kind of education. Therefore, all universities of the State as well the country should take necessary steps both to start and supervise these colleges for the prescribed infrastructure facilities, fee being collected and other facilities necessary for the course, students and teachers. The Constitutional provision of Access, Equity, and Relevance can be achieved by establishing more community colleges in India. Then only community college would become the "College for Community."

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Attitude of HE Students Towards Privatisation of Higher Education

A Study

LALIT KUMAR*
SUDHIR KUMAR**

Abstract

Several researches have shown that attitude has its bearing on so many attributes and capabilities [Kumar (1994, 1998), Singh and Sharma (1995)]. Several other studies have reflected that different variables have their bearing on different types of Attitude [Krishna and Rao (1992), Kumar (1995, 1996, 2003, 2007)] and that is why the researchers undertook this study. In the present study to measure the attitude of higher education students towards privatisation of higher education the tool developed and standardised by Kumar, Lalit. (Attitude Towards Privatisation of Higher Education Scale) has been used to collect the data. In this survey type of research 500 higher education students have been taken as sample by using Stratified Random Sampling Technique. Statistics like Percentage, Mean, Standard deviation and t-value have been calculated to test the hypotheses. The study reveals that most of the Higher Education students do not possess favourable attitude Towards Privatisation of Higher Education and types of courses, Category and Types of Institutions have their bearing on Attitude Towards Privatisation of Higher Education.

Privatisation of Higher Education is a burning and comprehensive issue in the context of growing financial need to fulfil the demand of higher education in one way and state obligation to take care of higher education of the poor and downtrodden to suit the welfare nature of the state in another way. Privatisation of higher education in a country like India where there is a huge population

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of first generation learners is really a tough decision. State alone cannot manage the ever growing financial burden of higher education and so there is a suggestion to allow to the private agency to run the higher education. In this age of knowledge generation and growing financial need, the issue has become even more intense and it needs a survey of opinion to reach at a point as there is no possibility of agreement of both the groups (who favours and who does not favour). Some favours and some does not favour, some favours on certain issue or point and disagrees at another issue and point. Considering the complex nature of the problem and to search a suitable answer to the problem the researchers have undertaken this study.

Attitude research started with the explorations of the nature and structure of attitudes, development of the methods of attitude measurement, and identification of the correlates of attitudes. Influence of attitudes on such psychological processes as learning and remembering; perception and thinking and reasoning has also been investigated in some detail. Maximum work has been done in connection with the survey of attitudes and opinions of various groups of people towards all kinds of social, political, cultural and economic issues that the country is facing. A major bulk of research has been done in area of education – on attitudes of teachers and students towards various academic and psycho-social phenomena.

(Krishna and Rao. 1992)[1] found that male teachers expressed more favourable attitude towards science than female teachers. (Kumar, Lalit. 1994)[2] found that attitude towards mathematics plays a significant role in the development of mathematical creativity. (Singh and Sharma 1995)[3] found that urban background provides a more fertile land for developing favourable attitude towards population education and small family norm. (Kumar, Lalit. 1995)[4] found insignificant difference between the attitude of male and female students towards mathematics. (Kumar, Lalit. 1996)[5] concluded that only a few primary school teachers possess high favourable attitude towards mathematics. (Kumar, Lalit. 1998)[6] found that attitude towards mathematics is positively and significantly correlated with achievement in mathematics. He further found that high attitude towards mathematics group is significantly superior in his achievement in mathematics in comparison to the low attitude towards mathematics group. (Kumar, Lalit. 2003)[7] concluded that most of the B.Ed. students do not possess favourable attitude towards privatisation of Higher Education and male and female B.Ed. students do not differ significantly in their attitude towards privatisation of Higher Education. (Kumar, Lalit. 2004)[8] found that General and reserved categories B.Ed. students differ significantly in their attitude towards privatization of higher education. He found General category B.Ed. students group higher on mean values.

Above mentioned studies and few others gave insight to the researchers to select the variables to shape the

undertaken study. Review of attitude researches also directed the researcher to employ suitable tool, statistics and appropriate sampling technique. The researchers are of the opinion that the study will serve the purpose in the way most of the survey researchers do. It will open an issue, will stimulate the researchers, teachers and the policy makers to think on the issue and continue with comprehensive studies to collect more specific views to generalise or to reach at a state of decision.

Objectives

1. To study the Attitude of Higher Education Students Towards Privatisation of Higher Education.
2. To compare the Attitude Scores of General Category and Reserved Category Higher Education Students.
3. To compare the Attitude Scores of General Courses and Professional Courses Higher Education Students.
4. To compare the Attitude Scores of Private and Government Institutions Higher Education Students.

Hypotheses

1. Higher Education Students do not possess favourable attitude towards Privatisation of Higher Education.
2. General and Professional Courses Higher Education students do not differ significantly in their attitude towards Privatisation of Higher Education.
3. General and Reserved category Higher Education students do not differ significantly in their attitude towards Privatisation of Higher Education.
4. Private and Government Institutions Higher Education students do not differ significantly in their attitude towards Privatisation of Higher Education.

Methodology

In the present study the researchers have used Descriptive Survey Method to study the Attitude of Higher Education students towards Privatisation of Higher Education.

Sample

Five Hundred graduate and post-graduate students of Patna district were selected as sample by using stratified random sampling technique.

Tool used

Attitude Towards Privatisation of Higher Education Scale developed and standardised by Kumar, Lalit was used to collect the required data. It is a bilingual scale (English and Hindi) and contains 24 items related to Privatisation of Higher Education. In this Likert type scale, Attitude Towards Privatisation of Higher Education has four dimensions – Quality, Control, Exploitation and Welfare. There are three positively worded and three negatively worded items for each dimension. Thus, out of 24 items – 12 items are positively worded where as 12 items are negatively worded. Scoring of the response is as 0, 1, 2, 3 and 4 in the direction from strongly agree for positively worded items and for negatively worded items as 4, 3, 2, 1 and 0. The dimensions score range from 0 to 24 where as total score on attitude score ranges from 0 to 96. The scale and its

dimensions have high positive reliability coefficient ranging from 0.68 to 0.79. The inventory also has optimum face and content validity as the opinion and suggestions from the experts and students have been taken. The construct validity, A matrix of coefficient of correlation between the scores on four dimensions of Attitude Towards Privatisation of Higher Education scale and the total score on the scale, ranges from 0.33 to 0.86.

The selection of dimensions has been made after reviewing a large number of articles, and writings. In this process discussions and opinions have also been taken into account. The rationales behind the dimensions are in the form of questions – Will privatisation affect quality of Higher Education? Will it be controlled by the private party to make money? Will the employees of the system be exploited and will the welfare of the higher education related persons be safe-guarded?

Meaning of important terms

(a) Attitude Towards Privatisation of Higher Education

Attitude Towards Privatisation of Higher Education is an internal state which affects an individual's choice of action towards privatisation of Higher Education. In the present study attitude towards privatisation of higher education has been reflected in terms of four distinct dimensions of attitude towards privatisation of higher education – Quality, Control, Exploitation and Welfare.

(b) Category

In the study the researchers have taken category as it is defined in terms of (i) General category and (ii) Reserved category.

(c) Types of Courses

In the study the types of courses have been identified as (i) General courses (Science, Arts, and Commerce) and (ii) Professional courses (Engineering, Medical, Management and Education (B.Ed. & M.Ed. only)

(d) Types of Institution

Two types of institutions have been taken (i) Private institutions and (ii) Government institutions.

(e) Higher Education Students

Students studying at Graduation and Post-graduation level have been taken as Higher Education students.

Variables

In the present study Attitude Towards Privatisation of Higher Education is dependent variable, where as Category, Types of Courses and Types of Institutions are independent variables.

Statistical Treatment of Data

Percentage, Mean, Standard Deviation and t-value were calculated to test hypotheses. It was decided that the favourable attitude score against a item, against a dimension and against the composite score will be 03, 18 and 72 respectively. The product of the

number of statements and the numerical value assigned to the statement Agree (for positively worded statement) or Disagree (for negatively worded statement) has been considered as the minimum score for the consideration of favourable attitude. All the score below this score has been treated as unfourable attitude score. 20% High scorer has been considered as Higher group and 20% Low scorer has been taken as Lower group.

Analysis and Interpretation

Table 1 reveals that out of 500 students 89 students have favourable attitude on Quality dimension. On Control, Exploitation, Welfare dimensions and on Composite attitude there are 45, 44, 80 and 20 respectively. It indicates that only 17.88% students have favourable attitude on Quality dimension. On Control, Exploitation, Welfare dimensions and on Composite attitude these are 9%, 8.80%, 16.00% and 4% respectively. It further indicates that very few higher education students have favourable attitude towards Privatisation of Higher Education.

Findings

(i) Only 17.80% Higher Education students are of the opinion that the Quality of Higher Education will improve if it is privatised.

(ii) Only 9.00% Higher Education students are of the opinion that Higher Education will be controlled properly if it is privatised.

(iii) Only 8.80% Higher Education students are of the opinion that Exploitation in Higher Education will be looked after only if it is privatised.

(iv) Only 16.00% Higher Education students are of the opinion that Welfare of Higher Education related persons will get attention if Higher Education is privatised.

(v) Only 4.00% Higher Education students are of the opinion that Higher Education will function, serve and develop only if it is privatised.

(Kumar, Lalit. 2003)[9] has similar findings in his study conducted on 200 B.Ed. students. He has concluded –

TABLE 1
Number and Percentage of Higher Education Students Bearing Favourable Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Number*	*Percentage*
Quality	89	17.80%
Control	45	9.00%
Exploitation	44	8.80%
Welfare	80	16.00%
Composite	20	4.00%

"(a_1) Only 25% male and 25% female B.Ed. students think that the quality of higher education will improve if it is privatised.

(a_2) Only 19% male and 11% female B.Ed. students think that higher education will be controlled well if it is privatised.

(a_3) Only 10% male and 5% female B.Ed. students think exploitation in higher education will be managed properly if it is privatised.

(a_4) Only 12% male and 10% female B.Ed. students think that the welfare of higher education people in particular and society in general will receive due attention if higher education is privatised.

(a_5) Only 7% male and 3% female B.Ed. students think that higher education will function and serve in a better way if it is privatised."

Table 2 reveals that the obtained t-value between General and Professional courses higher education students on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 2.07, 3.38, 3.72 and 1.51 respectively. On composite Attitude the obtained t-value is 1.74. It further indicates that the obtained t-values on Quality, Control and Exploitation dimensions are significant at 0.05, 0.01 and 0.01 level of significance, but the obtained t-values on Welfare dimension and also on Composite Attitude are not significant.

Mean values indicate that the general courses higher education students are superior to professional courses higher education students on Quality, Control and Exploitation dimension of Attitude Towards Privatisation of Higher Education (df = 498).

TABLE 2

Mean, SD and t-value Between General and Professional Courses Higher Education Students on Different Dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Category*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	General	14.46	3.69	250	2.07	0.05
	Professional	13.74	4.06	250		
Control	General	13.52	3.62	250	3.38	0.01
	Professional	12.36	4.03	250		
Exploitation	General	12.78	3.56	250	3.72	0.01
	Professional	11.56	3.77	250		
Welfare	General	13.46	3.71	250	1.51	NS
	Professional	12.94	3.98	250		
Composite	General	52.47	9.31	250	1.74	NS
	Professional	50.90	10.75	250		

TABLE 3
Mean, SD and t-value Between Higher Group of General Courses and Higher Group of Professional Courses Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Category*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	General	18.60	2.33	50	0.84	NS
	Professional	19.00	2.45	50		
Control	General	17.60	1.62	50	0.30	NS
	Professional	17.60	1.73	50		
Exploitation	General	17.60	1.62	50	0.58	NS
	Professional	17.80	1.83	50		
Welfare	General	18.10	2.07	50	0.24	NS
	Professional	18.00	2.00	50		
Composite	General	67.60	5.16	50	0.09	NS
	Professional	67.50	5.56	50		

Table 3 reveals that the obtained t-value between Higher Group of General Courses and Higher Group of Professional Courses on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 0.84, 0.30, 0.58 and 0.24 respectively; on Composite Attitude the obtained t-value is 0.09. All these values are not significant (neither on 0.01 nor on 0.05 level of significance).

Table 4 reveals that the obtained t-value between Lower group of general courses and Lower group of professional courses higher education students on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of higher education are 2.10, 4.99, 5.03 and 3.37 respectively; on Composite Attitude the obtained t-value is 6.06. All these values are significant at 0.01 level (except on Quality dimension, on which the t-value is significant at 0.05 level) of significance.

Mean values indicate that General Courses higher education students are superior to professional courses higher education students on all the dimensions of Attitude Towards Privatisation of Higher Education and also on Composite Attitude.

Findings

Following is the summary of the tables 2, 3 and 4 in relation to Types of Courses.

(i) General Courses Higher Education students are higher on mean values on Quality, Control and Exploitation dimensions of Attitude Towards Privatisation of Higher Education in comparison to Professional Courses Higher Education students.

TABLE 4

Mean, SD and t-value Between Lower Group of General Courses and Lower Group of Professional Courses Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Category*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	General	9.90	2.47	50	2.10	0.05
	Professional	8.80	2.78	50		
Control	General	9.10	3.18	50	4.49	0.01
	Professional	6.70	1.19	50		
Exploitation	General	8.00	2.24	50	5.03	0.01
	Professional	5.00	2.13	50		
Welfare	General	8.90	2.62	50	3.37	0.01
	Professional	7.30	2.10	50		
Composite	General	42.40	4.56	50	6.06	0.01
	Professional	37.10	4.18	50		

(ii) Lower Group of General Courses Higher Education students is higher on mean values on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education; and also on Composite Attitude in comparison to Lower Group of Professional Courses Higher Education students.

Perhaps General Courses higher education students have more concern about the Quality and Infrastructure of the higher education institutions in comparison to professional courses higher education students and that is why they think in the way (Gupta, P.V. 2003)[10] is thinking, "Our main aim has to be expansion of technical and professional education with higher academic standards. Excellence in general education and more so in higher professional should motivate us. To achieve these objectives, privatisation definitely helps and this has been well established."

Table 5 reveals that the obtained t-value between General Category and Reserved Category Higher Education students on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 1.50, 4.68, 0.98 and 0.87 respectively. On Composite Attitude the obtained t-value is 1.59. All the values are insignificant except on control dimension.

Mean values indicate that General Category higher education students are superior to Reserved Category higher education students on Control dimension of Attitude Towards Privatisation of Higher Education (df = 498).

Table 6 reveals that the obtained t-value between Higher Group of General Category and Higher Group of Reserved Category Higher Education Students on

TABLE 5
Mean, SD and t-value Between General Category and Reserved Category Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Category*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	General	14.36	3.74	250	1.50	NS
	Reserved	13.84	4.03	250		
Control	General	14.08	3.83	250	4.68	0.01
	Reserved	12.46	3.91	250		
Exploitation	General	12.34	3.66	250	0.90	NS
	Reserved	12.02	4.34	250		
Welfare	General	13.36	3.76	250	0.87	NS
	Reserved	13.06	3.97	250		
Composite	General	53.36	9.68	250	1.59	NS
	Reserved	51.94	10.32	250		

TABLE 6
Mean, SD and t-value Between Higher Group of General Category and Higher Group of Reserve Category Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Category*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	General	19.10	2.47	50	1.26	NS
	Reserved	18.50	2.29	50		
Control	General	18.70	2.37	50	3.02	0.01
	Reserved	17.50	1.50	50		
Exploitation	General	17.60	1.62	50	1.10	NS
	Reserved	18.00	2.00	50		
Welfares	General	18.40	2.24	50	1.47	NS
	Reserved	17.80	1.83	50		
Composite	General	67.50	5.68	50	0.19	NS
	Reserved	67.30	5.04	50		

Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 1.26, 3.02, 1.10 and 1.47 respectively. On Composite Attitude the t-value is 0.19. All these values are insignificant except

on Control dimension of Attitude Towards Privatisation of Higher Education.

Mean values indicate that Higher Group of General Category Higher Education students is superior to Reserved Category Higher group of Higher Education students group (df = 98).

Table 7 reveals that the obtained t-value between Lower Group of General Category and Lower Group of Reserved Category higher education students on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 3.33, 4.86, 3.47 and 1.20 respectively. On Composite Attitude the t-value is 2.80. All these values are significant at 0.01 level of significance (except on Welfare dimension, on which the t-value is not significant even at 0.05 level of significance).

Mean values indicates that the Lower Group of General Category higher education students group is superior to Lower Group of Reserved Category Higher Education students Group on all the dimensions and also on Composite Attitude, except on Welfare dimension of Attitude Towards Privatisation of Higher Education.

Findings

Following is the summary of the tables 5, 6 and 7 in relation to category –

(i) General category higher education students are higher on mean values on Control dimension of Attitude Towards Privatisation of Higher Education in comparison to Reserved Category Higher Education students.

(ii) Higher group of General Category higher education students is higher

TABLE 7

Mean, SD and t-value Between Lower Group of General Category and Lower Group of Reserve Category Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Category*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	General	10.20	2.40	50	3.33	0.01
	Reserved	8.50	2.69	50		
Control	General	9.50	2.69	50	4.86	0.01
	Reserved	7.00	2.45	50		
Exploitation	General	6.90	0.70	50	3.47	0.01
	Reserved	5.80	2.13	50		
Welfare	General	8.40	2.65	50	1.20	NS
	Reserved	7.80	2.32	50		
Composite	General	40.40	4.24	50	2.80	0.01
	Reserved	38.00	4.36	50		

on mean values on Control dimension of Attitude Towards Privatisation of Higher Education in comparison to Higher Group of Reserved Category Higher Education students.

(iii) Lower Group of General Category higher education students is higher on mean values on Quality, Control and Exploitation dimensions of Attitude Towards Privatisation of Higher Education and also on Composite Attitude in comparison to Lower Group of Reserved Category Higher Education students.

(Kumar, Lalit. 2007)[11] in his study conducted on B.Ed. students have similar findings as he found General Category B.Ed. students higher on mean values in comparison to Reserved Category B.Ed. students. He found significant difference in the attitude means of General and Reserved Category students on Quality, Control and Welfare dimensions of Attitude Towards Privatisation of Higher Education and also on Composite Attitude. On Exploitation dimension of Attitude Towards Privatisation of Higher Education no significant difference was found between General and Reserved category B.Ed. students.

Table 8 reveals that the obtained t-value between Private institutions and Government institutions Higher Education students on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 1.28, 1.98, 0.943 and 3.163. On Composite Attitude the t-value

TABLE 8

Mean, SD and t-value Between Private Institutions and Government Institutions Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Institutions*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	Private	13.90	3.87	250	1.28	NS
	Government	13.46	3.84	250		
Control	Private	13.30	3.90	250	1.98	0.05
	Government	12.62	3.78	250		
Exploitation	Private	12.38	4.17	250	0.943	NS
	Government	12.04	3.89	250		
Welfare	Private	13.66	3.96	250	3.163	0.01
	Government	12.60	3.52	250		
Composite	Private	53.66	10.30	250	2.21	0.05
	Government	51.66	4.89	250		

is 2.21. Obtained t-value are not significant on Quality and Exploitation dimensions though on Control (0.05 level) and Welfare (0.01 level) dimensions the obtained t-value are significant. On Composite Attitude the obtained t-value is significant at 0.05 level of significance.

Mean values indicate that Private Institutions higher education students are superior to Government Institutions higher education students on Control and Welfare dimensions of Attitude Towards Privatisation of Higher Education and also on Composite Attitude (df=498).

Table 9 reveals that the obtained t-value between Higher Group of Private Institutions and Higher Group of Government Institutions on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 1.26, 0.90, 1.66 and 0.71 respectively. On Composite Attitude the t-value is 0.26. All these values are not significant (either at 0.01 level or at 0.05 level).

Table 10 reveals that the obtained t-value between Lower Group of Private Institutions and Lower Group of Government Institutions on Quality, Control, Exploitation and Welfare dimensions of Attitude Towards Privatisation of Higher Education are 1.89, 1.70, 1.78 and 0.80 respectively. On Composite Attitude the t-value is 0.23. All these values are not significant (either at 0.01 level or at 0.05 level).

Findings

Following is the summary of the tables VIII, IX and X in relation to Types of Institutions–

(i) Private Institutions higher education students are higher on

TABLE 9

Mean, SD and t-value Between Higher Group of Private Institutions and Higher Group of Government Institutions Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Institutions*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	Private	19.10	2.47	50	1.26	NS
	Government	18.50	2.29	50		
Control	Private	17.80	1.83	50	0.90	NS
	Government	17.50	1.50	50		
Exploitation	Private	18.10	2.07	50	1.66	NS
	Government	17.50	1.50	50		
Welfare	Private	18.30	2.19	50	0.71	NS
	Government	18.00	2.00	50		
Composite	Private	78.00	4.47	50	0.26	NS
	Government	77.70	6.86	50		

TABLE 10
Mean, SD and t-value Between Lower Group of Private Institutions and Lower Group of Government Institutions Higher Education Students on different dimensions of Attitude Towards Privatisation of Higher Education

Attitude Dimensions	*Institutions*	*Mean*	*SD*	*N*	*t-value*	*Level of significance*
Quality	Private	9.80	2.67	50	1.89	NS
	Government	8.80	2.60	50		
Control	Private	7.90	2.59	50	1.70	NS
	Government	7.10	2.12	50		
Exploitation	Private	6.90	2.12	50	1.78	NS
	Government	6.20	1.80	50		
Welfare	Private	8.30	2.41	50	0.80	NS
	Government	7.10	2.59	50		
Composite	Private	39.10	4.59	50	0.23	NS
	Government	38.90	3.99	50		

mean values on Control and Welfare dimensions of Attitude Towards Privatisation of Higher Education and also on Composite Attitude in comparison to Government Institutions Higher Education students. Doubt made by the (Panda, Sudhakar. 2009)[12] may be the reason behind comparatively less concern of Government institutions Higher Education students towards privatisation of Higher Education. Panda, Sudhakar speaks, "A debate has also been raised whether the private universities would serve the 'Public interest', particularly the academic pursuits of the students coming from the socially disadvantaged communities. This stands in sharp contrast to the care and benefits which the state universities have traditionally been giving to the poor and meritorious student in terms of scholarship, book subsidies, hostel facilities and travel grants, etc. In other words, there are genuine doubts whether the private universities can create an education system that will address the problem of social justice and prepare the students from the backward communities for a meaningful and effective participation in society."

General Conclusions

Considering the findings of the study and taking into account the hypotheses of the study following conclusions have been drawn–

1. Most of the Higher Education students do not possess favourable attitude Towards Privatisation of Higher Education.
2. (a_1) General courses and Professional courses higher

education students differ significantly in their Attitude Towards Privatisation of Higher Education on Quality, Control and Exploitation dimension of Attitude Towards Privatisation of Higher Education. General courses higher education students are higher on mean values.

(a_2) Lower group of General courses and Professional courses higher education students differ significantly in their Attitude Towards Privatisation of Higher Education. General courses higher education students are higher on mean values.

(a_3) "Types of Courses" has its bearing on Attitude Towards Privatisation of Higher Education.

3. (a_1) General category and Reserved category Higher Education students differ significantly in their Attitude Towards Privatisation of Higher Education on Control dimension of Attitude Towards Privatisation of Higher Education. General category higher education students are higher on mean value.

(a_2) Higher Group of General and Reserved category Higher Education students differ significantly in their Attitude Towards Privatisation of Higher Education on Control dimension of Attitude Towards Privatisation of Higher Education. General category higher education students are higher on mean value.

(a_3) Lower Group of General and Reserved Category Higher Education students differ significantly in their Attitude Towards Privatisation of Higher Education on Quality, Control and Exploitation dimensions of Attitude Towards Privatisation of Higher Education and also on Composite Attitude. General Category higher education students are higher on mean values.

(a_4) "Category" has its bearing on Attitude Towards Privatisation of Higher Education.

4. (a_1) Private and Government Institutions Higher Education students differ significantly in their Attitude Towards Privatisation of Higher Education on Control and Welfare dimensions of Attitude Towards Privatisation of Higher Education and also on Composite Attitude. Private Institutions higher education students are higher on mean values.

(a_2) "Types of Institutions" has its bearing on Attitude Towards Privatisation of Higher Education.

5. Quality, Control, Exploitation and Welfare are the concerns of Higher Education students (in some way or other) with respect to its Privatisation.

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Effectiveness of Peer-tutoring on Reading Comprehension of School Students in Hindi Language

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Abstract

The present investigation was intented to study the effectiveness of peer-tutoring strategy as against conventional method of teaching Hindi language in terms of students' reading comprehension. The quasi-experimental research design, i.e. pre-test-Post-test control group design was used and the study was conducted on a representative sample of 168 Class VIII students drawn from two schools of Agra district of Uttar Pradesh. It is evident from the analysis that peer-tutoring strategy has a significant role in enhancing the level of reading comprehension of eighth grade students in Hindi language. Further, experimental group students have made significantly higher gains in reading comprehension in comparison to their counter parts, i.e. conventional group students.

Introduction

Education is a goal-oriented process which continues throughout human life. It is a potent force for the harmonious development of the personality of an individual. Various attributes of human personality like truth, goodness and beauty may be attained through education. In this connection, Gandhiji rightly said, "Education is the preparation for complete living, adjustment to environment, perfection of one's nature, character building and harmonious development of personality." It has an implication that education has the responsibility to develop the qualities of hand, heart and head as well as training in 3R's, i.e. reading, writing and arithmetic. Reading and writing are basic skills which are equally important for all the subjects taught to students. That is why there should be more emphasis on reading comprehension, vocabulary development and writing skills of the students from the vary beginning of schooling. This will not only strengthen the linguistic ability of the students but also enhance the academic achievement in all the subjects like mathematics,

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science, history, geography, etc. including languages taught to them. Therefore, due emphasis is being given on language development of the children from the primary stage of schooling. Teachers are doing their best to develop linguistic potential among the children by adopting various methods of teaching but they are not satisfied with the achievement of the students. Perhaps, our teachers stick to the textbook and stereotyped teaching methods till date. These teaching methods are not only ineffective but also fail to activate the minds of the pupils. The National Policy on Education (1986) criticised the teaching methods adopted in Indian schools by pointing out that by and large, "the methods of teaching are quite outmoded. Quite often, these encourage memorising the contents of books and replication of the expected answers." This is unfortunate particularly when there is a knowledge explosion all round. Hence, participatory learning and teaching, emotion and experience need to have a definite and value place in the classroom (NCF-2005).

UNESCO Report (1972) pointed out that "No doubt, the teacher has to import knowledge, but the more important function is to encourage thinking on the part of the students. He has to devote more time and energy to productive and creative activities; interaction; discussion; stimulation; understanding and encouragement". Hence, there is a need to identify and try out such a method through which language potential like reading comprehension, verbal ability, etc. could be enhanced. There may be various methods, viz. textbook method, lecture, project, narration, story telling, individualised instruction, peer tutoring, etc. Out of these, a method is needed through which individual needs of the learner may be fulfilled at his own level or potential. A method known as peer tutoring fulfill this criteria where students get full opportunity to satisfy their individual need without hesitation because teaching is done by his or her own classmate. It helps the students not only to expose with their mates and meet out the individual demand but also strengthen their confidence. This, free and fair atmosphere, helps the individual to learn more with their classmate. Hence, there is a need to explain peer relations and learning as well as the method so as to know what it is, and how it applied in the classroom situation.

Peer Relations and Learning

Children's communication with their peers has qualities that differ from the qualities of adult-child communication. For example, peer dialogues are usually more equal than conversations between adult and child; children usually listen more respectfully to adults than to peers for information and guidance. Such differences have serious implications for learning. Educators have become aware of these differences and have begun to design classroom strategies that best exploit the learning opportunities provided by both peer and adult-child relations. This entry discusses contemporary methods for applying the special features of children's peer relations to their academic learning.

Piaget (1932) in his work on moral judgement, introduced the notion that children live within "two social worlds,"

one of unilateral adult-child commands, the other of mutual peer cooperation. Developmental psychologists have elaborated this distinction further (Youniss, 1980; Hartup, 1985). Whereas, adult-child interactions reflect a fundamental asymmetry of power and knowledge, peers interact on an equal footing. This means that adults usually direct and structure the agenda in their conversations with children, whereas children negotiate and "co-construct" the agendas of their peer encounters.

Hence, peer tutoring occupies an instructional ground somewhere between adult-child and true peer communication. Like adult-child instruction, peer-tutoring is based upon a transmission of knowledge model. This mode assumes that one party knows the answers and must communicate them to the other party. Knowledge is "passed down" from person to person in a linear fashion rather than co-constructed by persons who are both seeking answers. Unlike adult-child instruction, however, in peer-tutoring the expert party is not very far removed from the novice party in authority or knowledge: nor has the expert any special claim to teaching competence. Such differences affect the nature of discourse between tutor and tutee because they place the tutee in less of a passive role than does the adult-child instructional relations. Being closer in knowledge and status, the tutee in a peer relation feels free to express opinions, ask questions, and risk untested solutions. The interaction between instructor and pupil is more balanced and more lively when the tutor is a peer (Damon and Phelps, 1989).

Further, peer-tutoring not only helps in making teaching effective but also good the students to trap their talent or abilities and bring out their leaving potentiality into full play. However, there is a dearth of empirical evidences concerning with the effectiveness of peer-tutoring in Hindi Language in Indian classrooms setting. The present study answers the following basic questions:

(1) Does peer-tutoring in Hindi Language raises the level of reading comprehension of the pupils?
(2) Is peer-tutoring more effective than traditional method of teaching?

So far peer-tutoring is widely used as a teaching method for learners of all ages and all levels, viz. elementary, secondary, higher education, adult education and vocational education. It is most often imparted during or after the regular school hours by someone other than the teacher.

Peer-tutoring Strategy: An Overview

Paolitto (1976) traced the historical roots of peer-tutoring back to the first century A.D. when Quintilian noted the practice of having younger children taught by older children in his Institution Qratoria. The method was subsequently employed on a limited basis in Germany and Spain in the sixteenth century. Establishment of peer-tutoring on a formalised and widespread basis is generally credited to Andrew Bell, a Scotsman, who in the late eighteenth century established a school in Madras, India for orphans of British soldiers and Indian mothers. Bell modified the ancient Hindu tutoring system and in a 1797 report described the successful application of individual

and group peer tutoring as a method of instruction and discipline. Bell's methods were enthusiastically adopted by an English educator, Joseph Lancaster, who strongly advocated "tutorial" or "monitorial" method of instruction. In what came to be called the Bell-Lancaster system, professional teachers instructed older students who in turn instructed younger ones, with the younger students teaching still younger ones. Although variations of the Bell-Lancaster system were adopted by other European countries in the early 1800s, popularity of the system was short-lived, since increasingly, teaching was being viewed as a profession requiring training and talent and more money were being devoted to public education. Nevertheless, peer-tutoring was an accepted practice in the "one-room school-houses" of the early colonial period in American history.

Renewed interest in peer-tutoring as a teaching method in the United States began to be taken in the early 1960s due to concern over shortages of teaching personnel and the belief that some children might learn more effectively from another child than from an adult. One of the first and the most extensive of the tutoring programmes was the high school home work helpers programme started in 1962-63 in New York City. In this programme approximately one thousand 16-18 year-old students served as paid tutors to approximately six thousand ninth and tenth graders (age 11-15) from disadvantaged backgrounds and with reading problems.

Later on, various researchers studied the impact of peer tutoring on reading comprehension of children and found that participating children gained in reading ability or achievement or performance or attitude towards reading. (Nahem : 1978; Stern : 1978; Rogers : 1979; Jones : 1981; Limbrick, and Glynn : 1986; Brown : 1987; Tooping : 1988; Cinbula : 1991; Perry : 1991; Baland-Williams : 1992; Leach : 1993; Taliver : 1994; Fuchs and Others : 1995; Bulter : 1999; and Noell George, et.al. : 2000). However, researchers like Agris (1979), Bohac (1981), Nevi (1982), Reynolds (1987), and Vaughn, Klinger and Bryant (2001) could not observe significant gain in children reading scores or word recognition or improvement in their attitude towards reading.

Objectives of the study

1. To organise and undertake the teaching of Hindi language through peer- tutoring at the elementary stage.
2. To study the level of reading comprehension of students of experimental and control groups.
3. To compare the gains accrued in reading comprehension of experimental and control groups after the experimentation.

Hypotheses

1. Students who are taught through peer-tutoring method do not differ significantly in their reading comprehension from those taught through traditional method.
2. Gains (accrued) which flow to the peer-tutored students in their reading comprehension do not differ significantly from those tutored through traditional method.

Research Design

In this study, one of the quasi-experimental designs, namely pre-test-post-test-control group design was used. In this design, two parallel, equated groups are selected. To have two equated groups, randomized group technique is used in which both the groups are selected from a large population using random selection of subjects so that groups formed were equal in their composition. One of the groups was known as Experimental Group (E) and the other was Control Group (C). Both the groups were given pre-test comprising general intelligence, socio-economic status scale (SES) and reading comprehension test in Hindi Language. During the treatment phase, experimental group was taught through Peer tutoring while control group was taught through traditional method. After the experimental treatment, post-test was given on the same set of variable. A schematic brief is presented in Table 1.

Variables

Independent variables : Peer Tutoring Approach
: Traditional Method.
Dependent variables : Reading Comprehension in Hindi language
Controlled variables : General Intelligence
: SES
: Age
: Status and type of school (Public schools)

Sample

The study aimed at finding out the efficacy of the two methods, viz. peer-tutoring approach and traditional method. Hence, two sections of class VIII from each of the two schools were taken for the experimentation. The experimental and the control groups were decided by the draw of lots. The detail about two groups which were taken as the experimental and the control groups are given in Table 2.

TABLE 1
Schematic representation of the experimental design

S. No.	*Stage*	*Experimental Group N=84*	*Control Group N=84*
1	Pre-test comprising of the following tests: 1. Raven's Progressive Matrics 2. Kulshreshta's SES Scale 3. Reading Comprehension Test		
2	Treatment	Peer-tutoring	Traditional method of teaching
3	Post-test-Reading Comprehension Test		

TABLE 2
Number of students in the experimental and control groups

S. No.	*Institution*	*Experimental*	*Control Group Group*	*Total*
1	S.R.K. Inter College, Agra	40	40	80
2	R.B.S. Inter College, Agra	44	44	88
	Total	84	84	168

Tools Used

The tools employed in this study are listed below:

1. Raven's Progressive Matrices
2. Kulshreshtha's SES Scale
3. Reading Comprehension Test

Experimentation

The experiment was conducted under three phases. In the first phase, the students of both the treatment groups were administered reading comprehension test. After the administration of this test, the students were provided orientation and instruction about the treatment to be given to them.

In second phase, regular treatment was given to both the groups accordingly. Each of the treatment group was taught with a particular method of teaching. The experimental group was taught by adopting the lecture-cum-peer tutoring method while the control group was taught by using the traditional method, the method which is usually applied by their teachers in the class, i.e. lecture-cum-book method.

Third phase was the evaluation phase, where the evaluation of reading comprehension ability was done. For this, the students of both the treatment groups were again tested on reading comprehension test. In this way, the students were tested on two occasions, that is, before the treatment and after the treatment on same test. This was done to see how much the students had gained as a result of teaching through peer tutoring and the traditional method.

Data Collection

The data for reading comprehension was collected on two occasions; one was pre-test occasion (before the treatment) called occasion I and the other was post-test occasion (after the treatment) called occasion II.

Statistical Techniques Used

Following statistical techniques were employed to analyze the data:

1. In order to know the nature of the data, the measure of central tendency and dispersion like mean and standard deviation (S.D.) were employed.
2. Two-tailed test was used to test the null hypotheses of no difference between means of two large and independent groups.
3. In order to find out the significant difference between two means,'t' ratio was calculated.
4. For deeper understanding, bar diagrams were plotted wherever necessary.

Results and Discussion

In order to study the effect of peer-tutoring and traditional method of teaching on reading comprehension, the relevant data were analysed in term of mean scores, S.D. and 't' value. The detailed analytical description is given in Table 3. The bar diagram for mean value of reading comprehension before and after the treatment is plotted in Figure 1.

It is evident from Table 3 that before the treatment, experimental and control groups were obtaining nearly equal mean scores for reading comprehension. The calculated 't' value is 1.30, which is insignificant at acceptable level of confidence. It means, both groups were more or less same in their performance for level of reading comprehension. But after the treatment, it was observed that students of peer-tutoring group were achieving higher mean scores (M=12.24) than the students of control group (M=9.76). The calculated 't' value is 10.33, which is significant at .01 level of confidence. Hence, the hypothesis (Ho_1) that "students who are taught through traditional method do not differ significantly in their reading comprehension from those taught through traditional method" is rejected.

It means that students of peer-tutoring group were attaining significantly higher level of reading comprehension in comparison to traditional group students. In other words, experimental group performed better on reading comprehension test after treatment than their counterparts, i.e. control group. Probably, it is due to the classroom climate during peer tutoring where they interacted in free and fair environment which motivated the students to translate, interpret and extrapolate the learning material as per their potential. Moreover, students try to put his/her viewpoint with logic to convince others when they have healthy interaction and competition with their classmates. This situation helps them to improve their comprehension in Hindi Language. Similar findings have been reported by Tooping (1988), Cinbula (1991), Leach (1993), Fuchs and Others (1996), and Noell et al. (2000) in language other than Hindi. Howover, Agris (1979), Nevi (1982), Reynolds (1987) and Vaughn, Klinger and Bryant (2001) could not find the significant effect of peer-tutoring on the reading improvement in their studies.

TABLE 3
Mean scores, S.D. and 't' value for reading comprehension of students before and after the treatment

S. No.	*Tests*	*Groups*	*N*	*Mean Scores*	*S.D.*	*'t' value*	*Significance*
1	Pre-test	Experimental	84	9.07	2.24	1.30	Not significant
2	Pre-test	Control	84	8.64	1.99		
3	Post-test	Experimental	84	12.24	1.46	10.33	.01 level of confidence
4	Post-test	Control	84	9.76	1.70		

Comparison of Gains Achieved by the Experimental and Control Groups in Reading Comprehension

It is clear from the foregoing discussion that peer-tutoring strategy has a significant effect so far as improvement the reading comprehension of the students in Hindi language is concerned. But a careful observation of the results presented in the Table 3 indicates that both the experimental and control group students are progressing on the variable under study. Here, the question arises that whether the progress shown by both the groups is due to the maturation of the subjects under study or it is because of the two teaching strategies. To get the above mentioned doubt resolved, the gains made by the subjects of experimental and control groups were compared variable-wise for both the schools as well as for total scores altogether and discussed as under.

The gain scores made by the individuals of two groups in the pre-test and post-test on reading comprehension were compared. The results are presented in Table 4. The bar diagram for mean gain scores of reading comprehension of different groups i.e., experimental and control, has been plotted in Figure 2.

Table 4 reveals that both the experimental groups (experimental group of R.B.S. Inter College and S.R.K. Inter College as well as the total sample of experiment) made significantly higher gains in reading comprehension in comparison to the respective control groups, as the 't' values in Table 4 are found statistically significant. Hence, the hypothesis (Ho_2) that "gains (accrued) which flow to the peer-tutored students in their reading comprehension do not differ significantly from those tutored through the traditional method" is rejected. It connotes that students of peer-tutoring groups performed significantly better than conventional group students. Thus, after elimination of the individual maturation effects on the reading comprehension scores, it can be safe to conclude that peer-tutoring is an effective strategy in raising the level of reading comprehension of the students.

TABLE 4
Mean scores, S.D. and 't' value of gain scores for reading comprehension

Schools	*Experimental Group*			*Control Group*			*'t' value*	*Significance*
	N	Mean	S.D.	N	Mean	S.D.		
R.B.S. Inter College, Agra	44	3.05	1.45	44	1.02	0.79	8.12	.01 level
S.R.K. Inter College, Agra	40	3.30	1.38	40	1.33	0.76	7.88	.01 level
Total Sample	84	3.17	1.41	84	1.17	0.79	11.11	.01 level

Conclusion

The findings of the study lead to the conclusion that peer-tutoring strategy has a significant role in enhancing the level of reading comprehension of the children in Hindi language. Further, it may be generalised that the experimental groups have made significantly higher gains in reading comprehension in Hindi language in comparison to the control groups.

Educational Implications

The major educational implications of the study are as under:

1. Peer-tutoring is a desirable approach for forestalling student unrest and burgeoning indiscipline in the changed social milieu of the country, for giving a discipline-oriented direction to the students' behaviour patterns and for raising the level of education, for tackling the emerging social, political, educational and economic problems. Peer-tutoring can be considered as a highly desirable method for triggering the all-round development of the students' personality. It is due to the inbuilt structure and freedom to work in groups where the students get so many opportunities to carry out various types of activities as tutors and tutees. It helps them to develop their potentials because students in various situations identify the problems and issues involved in and take decisions at different occasions. Such exercises broaden the mental horizon of students and develop confidence in them.
2. The peer-tutoring method is eminently suitable for inspiring students, giving them personalised direction, for keeping them fruitfully occupied and creatively active, for inculcating in them the ethos of self-discipline, for installing a measure of self-confidence, for channelising their activities into creative paths, for giving fillip to the regime of introspection, development of arguing and debating skills and for arriving at solutions on their own to the emerging problems in the teaching and learning situations.
3. It gives students a better understanding of their teachers' problems leading to the improvement of their own classroom behaviour as listed below:
   - The tutors are enabled to view the teaching-learning situation from the teachers' position and thus are led to make the classroom climate more psychological, congenial and less suppressive and authoritarian.
   - It permits student to put some of their own ideas into practice.
   - It increases their own knowledge by requiring them to master what they are teaching and to fill in gaps in their information.
   - As tutors, they enjoy an enhanced sense of competence and personal worth.
   - It increases the cognitive abilities and raises the level of reading comprehension in Hindi language.

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Role of Education and Awareness in Empowering Hill Women of Uttarakhand about Functioning of Panchayati Raj Institutions

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Abstract

At present, all over the country, states have delegated powers to Panchayati Raj Institutions (PRIs) in terms of article 243 and the Eleventh Schedule of the Constitution have decentralized governance up to the village level. The active involvement and participation of PRIs and its mandated functions in most of the sectors of rural economy is urgently required which would not only provide livelihood and food security locally but also contribute towards minimising existing pressure on natural resources. The hill women play a significant role in natural resource management, on which the rural livelihood and the very survival of hill families/communities depend. Despite of that, women have been and still are excluded from production of and representation in many socio-cultural and political decision making activities. Therefore, there is need to provide detailed information about rural development programmes/activities (being executed by the state/central governments and their line departments) and make them empower about roles and functions of PRIs through education and awareness. The present paper describes in detail that how hill women are actively involved in various mandated activities of PRIs for hill area development.

Introduction

Two of the significant shifts in India, during the 21st century, have been the increased attention to the delivery of public services on one hand and greater decentralisation of responsibilities for their services on the others. Ever since the Constitution becomes operational, various states have experimented with different models of Panchayati Raj Institutions (PRIs). However, this dream of Mahatma Gandhi was in true sense, fulfilled in 1992 when the Parliament through the 73rd Amendment provided the constitutional backing for

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establishment and functioning of PRIs for rural self governance for sustainable development. The 73rd and 74th Amendments to the Constitution together would always be remembered for creating leadership opportunities for millions of men and women at the grassroots level. It is also proposed that 50% reservation would be provided to women in the PRIs to represent the issues of rural development in the right perspective so as to achieve the goal of good governance at the grassroots levels.

Women serve as the backbone of the hill societies. They represent more than 50% of the population living in the hills and actively participate in the social, cultural and economic activities. They are the major contributors to the labour of farming, livestock, domestic and forest resource collections/utilisation systems etc. They play a significant role in natural resource management, on which the rural livelihood and the very survival of hill families/communities depend. Despite that, women have been and still are excluded from production of and representation in many socio-cultural and political decision making activities. Hill women have further challenges to face, they belong to societies that are marginalized, traditional, and cut off from the mainstream societies. Hardships of living in remote and far-flung areas, harsh environment, and topography which make their tasks more arduous and increasing tendency for men to migrate for employment is further increasing women's workloads. But there is a general lack of appreciation of women's role and skills in managing and looking after the responsibilities of their own families, and are often left out from the various capacity building programme and training in rural development and decision making processes.

Therefore, there is need to provide detail information about rural development programmes/activities (being executed by the state/central governments and their line departments) and make them empower about roles and functions of PRIs through education and awareness. Education need to be encouraged as a means of empowering women from grass root level. Educational and awareness programmes for women need to incorporate the mandated functions and responsibility of PRIs for village development and thus develop capacity and skill in the field of enhancement of rural livelihood, leadership and strategic planning skills as well as confidence building, role in decision-making in local level governance, etc. Policies need to support mainstream gender issues and acknowledge that women are not only capable to manage their families but also acquired knowledge of managing their resources and environment. Thus, hill women need to be involved in PRIs and their role need to be ensured in various programme activities that improve their capacities in addressing the issues relevant to rural development and natural resource management. Besides, women are also to be involved in policy making at local, regional and national level and given equal opportunities to participate in decision making that meet norms set out for public accountability of including financial accountability, both upward as well as downward to the people. Moreover, empowered women play an active role and responsibility to effectively monitor and

exercise vigilance over the work of their elected representatives to secure both effectively gains in service delivery by the Panchayats and promote transparent, responsive and accountable grassroots development through grassroots democracy.

Problem, Definition and Concept of Women Empowerment

Women and their problems have acquired a steadily growing importance in our socio-cultural milieu. But even today no where women do have equal rights and status with men. Women have always made a very significant contribution to their societies, but a patriarchal conspiracy has prevented women's role from receiving its due recognition (Maria, 1980). Women empowerment is fast emerging as an important slogan from the 1990s. This slogan is gradually being integrated with that of participation, advanced so vociferously by many in the late 1970s and 1980s. Over the past two decades, conditions of women have improved. There have been improvement in several domains of women's activity. More and more women are entering the work force. A greater number of women are overcoming traditional barriers to realize their potentials. Yet a gap exists between men and women with respect to overall development (Padamnabhan, 2001). Although a number of explanations have been advanced to account for this gap, the most important part of this analysis serves only academic purposes. What appears to be important is the strategy to bridge the gap and to implement corrective measures and strategies for women' development (Neeta, 2000). In the context of empowering women, the several programme/activities and strategies have been geared to political, social and economic agenda.

Empowering and Involving Women in Various Roles and Mandated Functions of the PRIs

- ***Women's roles and services in participatory planning and decision making***

  Hill women have enormous farming workloads than men, share additional domestic responsibilities and other work jobs. Although they are increasingly integrated at all level in the management of family structure, had only limited success in gaining access and rights to, and participation in, decision making processes with the family level. Appropriate technologies to reduce the physical burden of hill women need to be designed, improved, tested, implemented and disseminated using traditional/ indigenous knowledge.

- ***Education, information and communication for village human resource management***

  Illiteracy and lack of access to health-related information affects hill women more than men. Education need to be encouraged as a means of empowering women. Educated women delay marriage, prefer fewer children (small family) and more likely to adopt family planning measures, and understand their rights better. A strong mechanism need to be

developed to increase grassroots women' participation and provide forum through which they can update their knowledge and advocate common interests and concerns related to rural development. Besides, educational and skill development programmes for women need to incorporate managerial and technical skills, encompass occupations thought of as men's domain and major focus on development related issues. Access to information about markets, other livelihoods that recognise, utilize and support the diversity of hill environment needs to be facilitated. Capacity building activities and platforms for the sharing of experiences and information with other need to be encouraged.

- ***Natural resource management and livelihood issues and their relevance of environmental governance at the local level***

  Hills are rich in natural resources aside purely for conservation and management can lead to conflict between the resource users and authorities responsible for conservation. Banning the resources may affect the marginal hill societies disproportionately, and increase the workloads for women. Such restriction on bioresources on which they have traditional rights over centuries can also lead to rapid depletion of resources as the sense of ownership is lost.

- ***Women oriented framework, policies and approach in PRIs***

  Although gender mainstreaming is important in developing appropriate policies in aspects of governance, women focused programme can be useful in situations in which women lack a voice, and can help participants build confidence, social capital, and skills.

- ***Capacity and skill development in the area of entrepreneurship and appropriate rural technologies***

  The involvement of women representative(s) of PRIs is limited even though livelihood improvement is the major goal as listed in the mandated functions of PRIs. Thus, enabling access to hill specific simple rural technologies would be partly about making more productive, useful technologies available and partly providing opportunities (institutional, financial, social, micro-credit, skill etc.) that support access to rural women in these technologies linked to entrepreneurships. But building women's capacities/skills to make these choices means not just bringing new rural technologies to their doorstep, but addressing their organisational capacities and opening new channels of information and knowledge. This is particularly very important in the hills where women have very limited access to modern facilities or to secure external help for solving the local problems. Women need to be provided access to the knowledge and skills needed to plan, operate and manage an enterprise so that they can sustain their enterprises with the returns. The training must focus on the

conditions and resources available in the regions and help promote skills, quality management, and business development, market linkages for products that acknowledge the cultural and biological diversities of the communities.

- ***Involvement and participation in planning advocacy and decision making bodies of PRIs***

  Women have an important role to play in the development of sustainable and environmentally sound production and consumption systems, but they always remain sidelined when it comes to decision making. Women' representation need to be ensured in decision making bodies at all levels of PRIs. They need to be informed about their rights and involved in decision making and the development of the plans for rural development, and provided with training so that they can overcome the fear of participating. Formation of hill women' association need to be supported and facilitated to help in bringing women issues to the forum. They must be given a voice and their specific concerns addressed when formulating policy planning initiatives.

- ***Awareness for social security and functions and programme activities of PRIs for rural development***

  For empowering women government have launched several developmental schemes/programmes for their well being. But it was found that majority of the women in rural areas are not at all aware about these programmes/activities. The major focus of all these programmes is to bring them into the mainstream of development. The special programmes have been envisaged with the view to enhance the socio-economic conditions of women in the paid employment. Therefore, motivating and mobilising them for participation in such activities and helping them to enjoy the fruits of their labour, define the holistic human perspective of a community.

  In addition, rural women need to be made fully aware about the functions and roles of PRIs in other rural development programmes supported by central/state governments those are being executed by state/central line agencies/department in the following sectors: (a) agriculture, irrigation and water management, (b) social forestry and forestry, (c) small scale village and cottage industries, (d) rural housing, (e) drinking water, (f) rural road network, (g) rural electrification and non-conventional energy sources, (h) poverty alleviation, (i) education, (k) cultural activities, health, family welfare and sanitation, (l) women and child development, social welfare, social welfare of weaker sections/SC/ST/youth, and (m) public distribution system, etc.

- ***Effective participation of women in local level governance through PRIs***

  The hill regions require basic structure and support systems to bring about fair, transparent and

good governance. Unfortunately this is totally lacking in most of the regions. Women at grassroots level need to be empowered and their capacities to be developed. The social and political frameworks to be developed to encourage initiatives by local communities. There is a need to further devolve and define roles and functions, empower and develop capacities of district and grassroots level institutions particularly at Panchayat level. On the basis of the principle of sharing, participation of women groups at different levels in decision-making and implementation, is extremely relevant for the rural development governance. Governance is about a process that includes formal government but also embraces a wider notion of all those agencies and stakeholders that play a role in the control of individuals and groups in society.

Conclusion

Rural development issues need to be segregated in a manner ensuring effective interventions are made at the appropriate level. Women have always had a central role in managing and operating in most of the household activities in the rural areas of the hills. Their activities also maintained the essential linkages between the forest, livestock and agriculture. The role of women merits special recognition and consideration in development. In recent years, however, environmental degradation, poor resource management, and increased migration of men to plains have deteriorated food security and added more workload of women.

Women are much more inclined than men to attend educative and training courses. After having been isolated from the development and communication for centuries, they are more curious than their male counterparts, more generous and more open to new ideas. The gap between knowledge and action, between information and implementation has widened. In order to better address the issues relevant to hill women, it is necessary to understand the status of women compared to men and to strengthen women's roles in integrated rural development. Thus relevant information in various areas such as proper education, training and skill development in rural development programmes/activities facilitation, information and opportunities need to be made available or provided to rural women. There are reasons for which any social policy for the hills hopes to succeed must be able to cope with the needs and desire of women, which can no longer be ignored or underestimated. Active participation of women in grassroots planning will bring about the desired transformation of the region by developing suitable options of livelihood enhancement that would leads towards prosperity.

Encourage and facilitate women groups at village level to restructure the system of self-government at the Panchayat level to achieve the constitutional objective of making them institutions of self-government. Although, strengthening is required at all levels. The weakest link seems to be the local level in rural development related governance issues. An effective

local level unit of governance could be located at the district. While strengthening the various institutions, there is a need to have a paradigm shift in personal and administrative policies. All the policies and programme should lead to quantifiable improvement in rural development quality. In fact all the agencies have to have cross-sectoral concerns in their developmental agencies. In fact, good governance with regard to rural development and bioresource management is difficult to attain unless there is an equally effective overall governance structure. An improved rural sector governance and implementation of effective poverty alleviation programmes could be step towards this goal. Re-engineering of various process and an effective use of modern information could also lead to an improved rural development related empowerment and governance.

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Reorientation of Teachers Teaching in Rural Areas

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Abstract

There is need of the teachers for providing proper school education in rural areas. Many field experience reveal that teachers often focus on the urban and feel comfortable in urban areas. It is necessary for the teachers to play a vital role in bringing awareness to the rural areas. As a democratic society we need interdependency among the people in sharing the ideals, institutions and experiences. Developing countries like India needs to develop proper linkages between rural-urban educational settings so that it will bring equity in the society.

During most of my service period I have served as a teacher purely in rural areas. So I am a bonafide rural teacher and to my mind there is no educational work of greater importance for the welfare of the Indian people than the preparation of teachers for the rural areas of the country. The vast majority of our people live in villages, where the standard of life is so low that the role of the rural teacher is not only that of an educator of the children who come to his school but also that of a torch-bearer to the entire rural population. Potentially, the rural teacher is the true creator of his people. But to what extent is he so in reality? What efforts are being made to prepare teachers who can effect a 'silent social revolution' in rural India, a revolution that will make the country safe for democracy, peace and happiness?

Formerly, only knowledge of three R's was expected from the primary school teachers. But now the real function of the village teachers is much more vital and significant. The task of the village school like that of the urban school is to provide such educational experiences as will prepare boys and girls for a more abundant life; physical, economic, social, moral and spiritual. The task of the village teacher, like that of the urban teacher, is to assist the children to grow and develop mentally, physically, morally and spiritually. What then, distinguishes the village school from the city school, and the task of the village teacher in our country from that of the urban teachers?

Broadly speaking, the distinguishing elements are two; one is the need to relate the education of the village child to his natural environment, within which it

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must prepare him to live effectively. The younger generation of the villages must be taught the occupation of their parents and the crafts of the locality, of course, with better understanding and improved technique. They must be made to realize the importance of better and improved life. They must be taught spinning, weaving, tailoring or other more productive works like making chalk, ink, tooth powder, soap and hair oil, etc. and computer education, so that they can enjoy their leisure usefully. They must be taught to have clean, cheerful and comfortable and yet simple and cheap houses with an abundance of sunshine and fresh air and a proper drainage of water. They must be impressed with the need of beautifying their houses with gardening and vegetation. Besides these material values, they must also be taught the extremely important lesson of thrift and self-sufficiency on the one hand and cooperation and service on the other. To achieve all these values it is important to make the village schools rural in tone and teachers rural minded. Secondly, there is the nature and extent of contribution they have to make to the entire life of the community. Restoring cottage industries is possible. Fostering the value of recreation to break the monotonous drudgery of their lives is also essential. Diseases can be prevented even without doctor if we take precautions or preventive measures.

As agriculture and rural education are interdependent, the village teacher and his school should be an important channel through which suggestions for the improvement of agriculture can flow. A well-informed teacher can acquaint his pupils as well as help their affairs wisely. The most valuable thing is to lead its people to help themselves actively for their own progress. There again the teacher has a role as a guide and a friend. It means that the school as a cooperative body of teachers and older pupils should be a live community centre for the whole village radiating light and happiness all around. The reform of village life and of moral education depends upon securing the right kind of teachers who are purposeful and resourceful, who are imbued with the spirit of service, who possess minds that are awake and growing, flesh that active and faith that is dynamic and who have been adequately prepared for rural teaching and moral uplift. It is the task of the institution engaged in teacher training to select and to prepare such teachers for work in the rural schools.

The main responsibility in this reorientation programme is that of the teacher training institutions. Teachers from rural background must be expected to go and serve their areas and this group of teachers should be given specific training to deal with the problems particular to rural areas. For example,

- the language teachers must be trained for adult education techniques;
- science teachers must be given practical training to handle machines and tools common to villages, e.g. the water-pump, electric motors, diesel and oil engines (flour mills, etc.)
- the civics teachers must be well versed with the Nyaya Panchayat rulings and its functioning. He should be accepted as an advisor;

- some teachers must be given perfect first-aid training;
- the P.T.I must be trained to know and devise games, functions, festivals and programmes suitable to the village;
- above all a spirit to work with devotion and dedication be infused in the teachers and the headmasters to serve these areas. The training institution must serve as a fountainhead of inspiration and zeal and establish in them a taste to work in the rural set-up contrary to the usual apathy and distaste for rural life.

School an Institution

School should become an institution for the improvement of agriculture and rural life as well as for the teaching; the aim must be:

1. to teach the dignity of labour and cultivate the school and the home;
2. to develop a habit of accurate and patient observation as opposed to hasty deductions;
3. to develop an intelligent and active interest in the main occupation of the rural population;
4. to give the teachers the necessary background for rural reconstructional work and to develop the habit of reading literature on agriculture, local history, local folk-tales, local geography (soil and climate), village panchayat (actual working, powers, duties, election and advantages), hygiene and everyday science;
5. extra-curricular activities such as Young Farmers Club, Excursion Club, Village Games Club, Cooperative Society, and Community Welfare, etc. must be taken up.

For the growth of democracy in India the teachers must be alive to the problems of the community which they happen to serve through the school. The teachers should be familiar with at least the following parts of the community:

1. Population (number and composition)
2. Housing
3. Industries and occupation
4. Employment opportunities
5. Welfare agencies
6. Reception centres
7. Political make-up
8. Cultural make-up and religious life
9. Tax rate and taxable resources
10. Possibility of exploiting community resources for classroom purposes
11. Attitudes of the community towards the school
12. Needs and problems of the children
13. Home lives of the pupils
14. Computer literacy

Much of the above information may be had by living and being a part of the community. The teacher's behaviour in the community is of paramount importance. Our democratic society is a chain of interdependent people, institutions, ideals and experiences. Teachers must remember that 'a school room is a sociological laboratory in which they are to solve the problems of human relations. Teaching is hard work. In fact the task is never done.'

Should the curriculum of primary schools and secondary schools in urban and rural areas be different or should it be uniform throughout the country? But

surely, the teachers for the rural schools be trained specially to assimilate a rural background and to imbibe the ideals of social work and activity methods of teaching. Activity methods which provide work experience and emphasise cooperative action between pupils are seen to be suited for schools intended to help community development. Teachers occupy a pivotal position in any educational system, so that the success and failure of schools and particularly rural schools, depend largely on them; teachers for rural schools have to be suitably trained in institutions having a proper rural setting and concentrating on a study of rural environment and social service.

Some people may object to the differentiation between rural and urban school curricula and consequently to a similar differentiation in teacher training, and argue that such policy is detrimental to national unity. While saying this they quite forget that there is already a wide gulf between the urban and the rural set-up and it is towards fillings this that we propose this differentiation. They point out that a different rural school curriculum heavily charged with practical work would tend to block the progress of rural child who wants to enter secondary or other forms of post-primary education, while rural parents often object to having a special rural programme which might endanger the progress of their children in further education.

But these are all vague fears. Industrial countries, where good roads exist, where rural communities are advanced, and where even agriculture has become a form of industry, may feel that the gap is so reduced between town and country that there is no more justification for differentiated rural school curricula and rural teacher training, except in minor adaptations. Countries like India where farmers live a destitute life of disease and poverty, may feel, on the other hand the rural schools and consequently the rural teachers must be dedicated to improving the life of the village communities, and thus may decide on a special rural teacher training programme.

Another problem is the isolation of the rural teacher; not only the physical isolation of distance from a big city but also the discomfort of poor and unhealthy housing, the lack of medical care, the lack of a regular supply of such things as fruits, milk, and vegetables, not to mention books, magazines, internet facilities and the broadening contacts with the outside world. Attempts must be made to grant additional allowances to rural teachers placed in remote districts and to provide them with housing accommodation. Teachers therefore, tend to avoid rural service. Not only are teachers with a city background averse to service in the villages, but even the teachers coming from the rural areas, educated in urban centres, have been known to be unwilling to go back to the villages. Teachers from the rural stock are to be trained in the rural environment itself.

Conclusion

To sum up, the following points have to be emphasised upon for proper and efficient reorientation:

1. The right selection of teachers keeping in view the rural the rural needs and their bias.

2. The development of aptitude and spirit to work with dedication for the uplift of the villages.
3. Right, useful and suitable training to suit rural requirements.
4. Follow-up work to be carried out by the headmaster.
5. Rewards and punishments.
6. Rural allowances.
7. Library, full of life and utility to all equipped with xerox, computer and net services and phone, etc. in rural schools.
8. The P.T.I. to know and devise games and functions suited to rural folks.
9. The village Sarpanch, the H.M. and the Department must coordinate effectively.
10. Common rural expectations as given below should never be lost sight of;
    (i) First-aid
    (ii) mechanical knowledge and handling of common tools
    (iii) tips on good farming
    (iv) Panchayat working
    (v) suitable recreations
    (vi) housing, drainage and architecture
    (vii) Computer literacy
11. Radio and TV to serve towards establishing a good rapport between the school and the community.
12. Developing faith and interest of the community towards schools.

And in this way the teacher may bring about the 'silent-social revolution' and our villages may prosper and develop. The extra finance for rewards and encouragements in the shape of rural allowances will have to be arranged. It would have to be given special status and then only the gap will be filled. The teachers serving in the rural areas are the best personnel for minimising the gulf between rural and urban life.

History of Missionary's Education in Assam

ALI AHMAD*
SAYEEDUL HAQUE**

Abstract

The missionaries are regarded as the founders of modern system of education in India by many scholars including northeastern region. Many British and American Christian Missionaries started working to promote education and well being of people of Assam especially the local tribes as early as 1626 A.D. They also established English medium schools in town and urban areas. Besides they established boarding schools for destitudes, orphans and girls. They worked towards the promotion of vernacular schools as well as for the upliftment of the tribal areas of Assam. In the post Independence period their work in Assam was not only confined to its educational efforts but it has extended its activities in various other spheres of life. In the last quarter of the twentieth century some important developments took place in the functioning for missionary in Assam.

History of Missionary's Education in India

The Portuguese Missionaries can well be regarded as the founders of modern system of Education in India. "Among the earliest Missionaries to arrive, and the best known among them, was a Portuguese, namely, St. Francis Xavier, who arrived India in 1542 A.D."[1] In 1575, he founded a University, i.e. St. Anne University, at Bandra, near Bombay and established a press at Cochin. Another Portuguese religious Missionary was Robert De Nobili, whose services in the cause of Christianity were remarkable. "The Portuguese established the first Jesuit College in 1575 at Goa. In 1580, more colleges were established at Goa and other places too."[2]

In the beginning of the seventeenth century the Dutch also established their trading companies in India. They started their commercial centres at Chinsura and Hoogli in Bengal. There, they

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[1] DODWELL, H. H., *The Cambridge Shorter History of India,* Cambridge University Press, Cambridge, U.K., 1938, p. 391.
[2] MAHAJAN, V. D. and MAHAJAN, SAVITRI,: *British Rule in India and After,* S. Chand and Co., New Delhi, India, 1968, p.7.

established some schools for the education of the children of company's employees. The Indian children too were allowed to study in these schools. They preached the tenets of the Protestants Church among the Christians through educational institutions. They extended the sphere of their activities even upto Ceylon. "The French established their first trading company in India in the year 1664. They opened their factories at Mahe, Yaman, Karaikol, Chandranagar and Pondicherry."[3] At these places, they started their schools too. They established a secondary school at Pondicherry where French language was taught. "In 1659, the Court of Directors of the East India Company declared their earnest desire by all possible means to propagate the Gospel, and allowed Missionaries to embark on their ships."[4] "In 1670, they made inquiries about the education of children of Fort St. George at Madras and in 1673, appointed a Scotch preacher named Pringle to teach the children of Portuguese and British Eurasians."[5]

The above discussion indicates the initial stages of Missionary's educational enterprise in India. In the beginning, the Missionaries had to pass through various stages of ups and downs and gradually their educational institutions spread all over the country.

The State of Assam

Assam is one of the North-Eastern states of India. Its capital is Dispur, a suburb of Guwahati city in Kamrup district. It comprises of three natural divisions, viz., the Brahmaputra River valley, the Barak River Valley and the Karbi Anglong and the North Cachar Hills with an area of 78,438 square kilometres. "Assam is connected to the rest of India by a narrow strip in West Bengal popularly known as the Chickens Neck".[6] It also shares international borders with Bhutan and Bangladesh.

"The word 'Assam' as interpreted by some scholars is derived from the name of 'The Ahoms', the dynasty that ruled the land for six hundred years prior to its annexation by the British."[7]

Assam comprises of 3.7% Christian population. According to the National Census of 2001, the Christian population is 9,86,589 out of the total population of 26,655,528. The literacy rate of Assam's Christian population is 56.4% which is remarkably low in comparison to the national norm of Christian literacy, i.e. 80.3%.

"The low rate of literacy among Christians of Assam is due to the fact that Christian population of Assam is largely made up of tea garden labourers and ex-tea garden labourers chiefly drawn from Bihar, Orissa and Andhra

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[3] Mahajan, V. D. and Mahajan, Savitri, op.cit., p.7.
[4] Vakil, K. S. and S. Natarajan : *Education in India,* Allied Publishers,Calcutta, India, 1966, p. 48.
[5] Law, N. N., op.cit., pp. 11-12.
[6] http://en.wikipedia.org/wiki/Assam;
[7] Srivastava, Dayawanti and Mohan Chandak, *India 2008, A Reference Annua,* Publication Division, Ministry of Information and Broadcasting, Government of India, New Delhi, 2008, p. 388.

i.e. they comprise of 80% of the Christians in Assam."[8]

Assam is consisting of twenty seven (27) districts. These are:

Districts in Assam

1. Tinsukia, 2. Dibrugarh, 3. Sibsagar, 4. Dhemaji, 5. Jorhat, 6. Lakhimpur, 7. Golaghat, 8. Sonitpur, 9. Karbi Anglong, 10. Nagaon, 11.Marigaon,12.Darrang, 13. Kamrup Rural, 14. Nalbari, 15. Barpeta, 16.Bongaigaon, 17.Goalpara, 18. Kokrajhar, 19.Dhubri,20. North Cachar Hills, 21.Cachar,22.Hailakandi 23. Karimganj, 24. Kamrup Metropolitan, 25. Baksa, 26. Chirang and 27. Udalguri.

Missionary's Education in Assam

The Christian Missionaries landed in Assam in as early as 1626 A.D. "Two Catholic Portuguese Jesuit Missionaries, Cabral and Cacella reached Hajo and Guwahati as travellers on September 26, 1626 A.D., on their way to Tibet from Hoogly."[9] Though they didn't settle down in Assam yet, they were considered to be the first Christian Missionaries to set foot in Assam.

"Assam came under the British rule in February 24, 1826, after the treaty of Yandaboo was signed between the British and Burmese, when the latter was defeated at the hand of the British army."[10] It was only after 1826, that the Missionary educational effort started in Assam. From the very beginning of the British rule in Assam, Missionary activities were favoured by the Government. David Scott, who was the first agent to the Governor–General in North East Frontier, encouraged the establishment of a Mission in Guwahati, the chief station (Headquarter) of the province, and he also urged for establishing a Mission school there. "In, 1829, the Baptist Missionary Society (B.M.S) or the English Baptists started their activities in Assam by opening a branch of Serampore Mission in Guwahati on the request of Scoot."[11] Simultaneously, the Guwahati Mission School was founded at the initiative of Mr. Adam White, Assistant to the Commissioner in Lower Assam.

"Robertson, the successor of Scott, during his short administration (April 1832 – January 1834) was more occupied in the administrative work, and had hardly anytime to do something regarding the propagation of Gospel. Mr. Francis Jenkins, the next Commissioner of Assam was much interested in evangelical activities."[12] He felt that the backward hill people were really in need

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[8] Rao, O. M., *Focus on North East Indian Christianity,* Indians Society for Promotion, Christian Knowledge (ISPCK), Delhi, India, 1994, p. 52.

[9] *Catholic Directory of India,* St. Paul's Publications, Bangalore, India, (2005-2006), p. 601.

[10] Taher, M. and P. Ahmed. *Geography of North-East India,* Mani Manik Prakash, Guwahati, Assam, India, 2001, p. 5.

[11] Sword, V. K., *Baptists in Assam,* Macmillan & Co., Chicago, U.S.A., 1935, p. 36.

[12] Barkataki, M. S., *British Administration in North East India (1826-74),* Mittal Publications, Delhi, India, 1985, p. 88.

of a spiritual reformation and education. With this object in view, he sent an initiation to Reverend W.H. Pearce, of the British Missionary Society in Calcutta. "But instead of sending British Missionaries, Reverend Pearce suggested that the American Baptist Missionary, already working in Burma, had an interest to work among the Shans (a Mongoloid hill tribe of Assam), and therefore, they should be invited to Assam."[13] Accordingly, two American Missionaries, Reverend Nathan Brown and Reverend Oliver Cutter were asked to proceed to Sadiya, a town in Upper Assam. "In September 1835, they reached Calcutta with their families. After a tedious journey of four months in the river Brahmaputra, these two Missionaries reached Sadiya on the 23rd March 1836."[14] "They were the first American Missionaries to land in Assam, and under their supervision a school house was built and classes started in June 1836."[15] Thus, simultaneously, two Missions started their work in Assam, one in Guwahati, Lower Assam under the British Missionary Society (B.M.S.), a branch of the Serampore Mission, and the other at Sadiya, Upper Assam under the American Baptist Mission.

In April 1838, Bronson moved to Jaipur, a place near Sadiya in Assam-Nagaland border with his family. In Jaipur, Bronson found that the Nagas, one of the local tribes, to be more promising for Missionary works than the other hills tribes and decided to work among them. "In 1839, the Home Board sent Cyrus Barker, another Missionary to Jaipur to work among the Nagas."[16] But the Missionary's life at Sadiya was not safe due to frequent aggression of the Khamtis (a local tribe of Sadiya region). Soon, they found that Sadiya was not the proper place to teach the Shans, and their attention was naturally turned to the people of the plains. Moreover, Barker intended much to work among the Assamese of the plains where, he was confident that the Missionaries would be successful in their schemes. So, Barker wanted a place where Assamese population was more, and from this point of view he decided to settle down at Sibsagar, a town in Central Assam. "On 24th May, 1841, Barker shifted to Sibsagar and established a Mission there."[17] Reverned Brown followed him. As a result, Bronson was no more encouraged by them to stay at Sadiya. "Finally Bronson, too, gave up the work, and came to Nowgong in October 1841 at the suggestion of Jenkins, and started a Mission there."[18] By the end of 1843, the Missionaries were fully established at Sibsagar, Nowgong and Guwahati. "In December 1845, the first Baptist Church

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[13] Gammel, William A. M., *History of American Baptist Mission,* Boston, U.S.A., 1850, p. 212.
[14] Barkataki, M. S., op.cit., p. 89.
[15] Chakravarty, Archana, *History of Education in Assam (1826-1919),* Mittal Publications, Delhi, India, 1989, p. 125.
[16] Downs, F. S., *The Mighty Works of God* , L.B.H. Publication, Guwahati, Assam, India, 1971, p.23
[17] Ibid, p. 28.
[18] Gammel, William A. M., op.cit. p. 219.

was opened at Guwahati. By January 1845, Brown and Oliver Cutter established fourteen schools under the Sibsagar Baptist Mission."[19] They learned English, simultaneously, with their vernacular studies. "The aggressiveness of hill tribes was absent in Brahmaputra valley but the real opposition came mostly from the Assamese Brahmins, who became a great obstacle to the flow of evangelization."[20] The opposition from the Brahmins were confronted in all the three centres, viz. Guwahati, Nowgong and Sibsagar.

Apart from these, for the orphans and destitutes, boarding schools were established in Nowgong, Guwahati and Sibsagar. "In 1844, Miles Bronson established an orphan school at Nowgong with the contribution from the English residents of Assam."[21] In addition to this, he also established two English schools, one in Nowgong and the other in the Khasi-Jayantia Hills. The Nowgong Mission School was also established by Miles Bronson in 1846.

The American Baptists had the credit of starting the first school for girls in Assam. "In 1844, the first school of this kind was established at Sibsagar by Mrs. Cutter and Mrs. Brown. This was followed by two other girl schools at Nowgong and Guwahati."[22] "In 1946, three years after their settlement at Sibsagar, the American Baptist Missionaries started the publication of a native monthly newspaper *Arunudoi Sambad Patra* from the Sibsagar Baptist Mission press. It was the first vernacular newspaper in Assamese and Reverend O.T. Cutter was its first editor."[23]

During the famous language controversy of Assam, which started after the Despatch of 1854, when the Government tried to impose Bengali as the state language and medium of instruction in schools against the will of the native Assamese people. The Missionaries wholeheartedly supported the native's cause and also tried to replace the then prevailing Bengali with local Assamese at the law courts and schools. "Reverend Brown and O.T. Cutter produced in 1836, the First Assamese Spelling Book for use in their schools. In 1839, Robinson published a grammar book in Assamese; in 1848, Brown published Grammatical Note in Assamese."[24] "In 1867, Reverend Bronson after a hard labour of 12 years published an Anglo-Assamese dictionary from the Baptist Mission press of Sibsagar."[25]

The Revolt of 1857 brought about a radical change in the policy of Government towards Missionaries in the whole country. They were considered

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[19] Barkataki, M. S., op.cit., p. 97.
[20] Sword, V. K., op.cit. 72.
[21] Gammel, William A. M., op.cit., p. 223.
[22] Chakravarty, Archana, op.cit., p. 129.
[23] Chakravarty Archana, op.cit., p. 59.
[24] Assam District Gazetteer, Sibsagar, Revised edition, Government of Assam, Shillong, India, 1967, p. 387.
[25] Barkataki, M. S., op.cit. p. 11.

responsible to a great extent for the unfortunate happenings. But the Government of Assam, however, thought that the teaching of the Bible or any other holy scripture was not objectionable and harmful, particularly, in a hill state like Assam.

The Missionaries also directed their attention to the backward remote areas of the plains as well. In 1857, the Church Missionary Society opened some schools in the district of Darrang to educate the Kachari, Mikir and other non-Aryan tribes confined to that area. These schools were placed under the management of Reverend C.H. Hesselmeyer, Superintendent of the Tezpur Church Mission.

The above discussion gave a clear picture that the Baptist Missionaries were the torch-bearer of the Modern education in Assam. They rendered unique service towards the promotion of vernacular schools and also for the upliftment of the tribal areas of the region.

But, since 1850, the Catholic Missionaries from different European countries also became actively involved towards educational upliftment of the region. At present, most of the Missionary schools in Assam are under the supervision of the Catholic Missionaries. As discussed earlier that the Catholics Missionaries were first to have landed in Assam in as early as 1626, but the Catholic's educational enterprise in Assam began only during the later part of the nineteenth century, when "In June 1850, Father Robin Bourry, Krick and Bernardi of the Institute of the Foreign Missions of Paris reached Guwahati."[26] Father Robin tried to learn Assamese and established a centre at Bongia, a place near Guwahati. Father Krick proceeded to Nowgong and from there to Dibrugarh with the intention of going to Tibet. "Father Krick was the first Catholic Missionary to reach Dibrugarh, on September 6, 1851."[27] In February 1854, while trying to make their way to Tibet along the Lohit River, a Mishmi (A tribe in Upper Assam) Chief killed Father Krick and Father Bourry. In 1860, Mr. Mercier, the Arch Bishop of Dacca is known to have visited Dibrugarh. In 1870, Assam was made a part of the Prefecture Apostolic (Catholic's Regional Headquarters) of Krishnagar, of West Bengal, which was entrusted to the Foreign Missionaries of Milan (Italy). "Mr. Jacopo Broy, of the Institute of the Foreign Missions of Milan took up residence in Guwahati and looked after the entire 'Assam Missions' from this central place. Soon, he went to Nowgong where he built a small church. In Guwahati, he built a brick church in 1883."[28] In February, 1890, the German Salvatorian Missionaries reached Guwahati. Father Gallus Schrole and Rudolph Fontaine, of the German Salvatorian Mission were the two great Catholic Missionaries of Assam Valley.

By this time, many Catholics from Chota Nagpur came to Assam to work in

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[26] *"Catholic Directory of India"*, op.cit., p. 601.
[27] Ibid, p. 479.
[28] Ibid, p. 601.

the tea gardens of the state. "In 1889, the Prefecture Apostolic of Assam was created with headquarters at Shillong, and was entrusted to the German Salvatorian Fathers. With the outbreak of World War I, the German Salvatorian Fathers were forced to return to their country and Jesuits of Calcutta looked after Assam till it was entrusted to the Salesians of Don Bosco (Italy) in 1921."[29] In 1922, the Salesians of Don Bosco arrived in North East. This was regarded as the turning point towards development of Missionary's Secondary Schools in Assam. At present, most of the Missionary Schools in Assam are under the supervision of Salesians of Don Bosco. From 1923, Father Piasecki looked after the whole of Assam valley from his headquarter at Guwahati. It was from Guwahati that the Missionary works in upper Assam, Tezpur, Garo Hills and Bhutan were started. Some of the first Catholic Missionaries of Manipur and Nagaland had studied at Guwahati. "In 1931, Father Piasecki opened the Dibrugarh Mission."[30]

In the post Independence period, the Missionary's work in Assam was not only confined to its educational efforts. But, instead, it has extended its activities in the various spheres of social services like establishment of Vocational and Technical Institutes for orphans, boarding for working girls and women, old-aged homes, crèches, hospitals, dispensaries, press and publications units, etc. But these Missionary institutions flourished full when the Catholic Missionaries through their well organized administrative system established their institutions in every nook and corner of the state.

At present, the whole of the Missionary activities in Assam is controlled by its headquarter in Guwahati, which is called the 'Archdiocese of Guwahati.' It is headed by the 'Archbishop' and under his leadership the whole of the Missionary work in entire Assam is controlled and governed. This 'Archdiocese' is further divided into sub-headquarters known as 'Diocese' and, at present, in Assam there are four 'Diocese' under 'Archdiocese' of Guwahati. These are (a) Diocese of Dibrugarh, (b) Diocese of Tezpur, (c) Diocese of Diphu, and (d) Diocese of Bongaigaon.

Each of these Dioceses has a unique history of development which is briefly discussed in the following paragraphs.

In 1951, the Diocese of Shillong, which was then the headquarter of the Missionary work in Assam was bifurcated and the Diocese of Dibrugarh was created with Reverend O. Marengo, as the First Bishop. "On 10th May, 1964, His Holiness Pope Paul VI visited Tezpur, and the Diocese of Shillong was once again divided and the Diocese of Tezpur was created and Reverend O. Marengo, who was then the Bishop of Dibrugarh was transferred to Tezpur and on August 23, 1964, he became its first Bishop."[31] In 1969, Shillong Diocese was raised to the status of Metropolitan See (district under the Archbishop) and a new Ecclesiastical

[29] Ibid, p. 1075.
[30] Ibid, p. 601.
[31] Ibid, p. 479.

Province (Arch Diocese) of Shillong–Guwahati was created and Reverend Hubert D' Rosario was transferred from Dibrugarh to Shillong as its first Arch Bishop. The Archdiocese of Shillong–Guwahati was divided again in 1973 to form the Diocese of Tura (in Meghalaya). The next division of Shillong–Guwahati Archdiocese led to the creation of Diphu diocese on 5th December 1983, detaching the district of Karbi Anglong from the Archdiocese of Shillong–Guwahati and district of North Cachar Hills from the Diocese of Silchar. Most Reverend Mathai Kochuparampil was appointed as the first Bishop of this new Diocese.

Further bifurcation of Shillong-Guwahati Archdiocese was made in 1992 with the creation of Guwahati Diocese. "Pope John Paul II erected the Diocese of Guwahati on 30 March, 1992. The Archdiocese of Guwahati was erected by Pope John Paul II on 1st August, 1995."[32] The Diocese of Bongaigaon was carved out of the Archdiocese of Guwahati in 2000, and it consists of Baksa, Barpeta, Bongaigaon, Chirang, Dhubri, Kokrajhar, and Nalbari districts of lower Assam that covers the surface area of 13,630 sq.km.

One of the most important aspects of the Missionary's work in entire North Eastern region in the post independence period was that in mid-sixties soon after the Chinese war, the north eastern region as a whole had become a disturbed area. The Government had great difficulty in stopping the unrest in Nagaland, Mizoram, Tripura, Manipur and recently in Assam itself. Violence became part of daily life in North East India as a whole. So, in the midst of these disturbances the Missionaries, especially, foreign Missionaries became the target of the attack. "The anti-Missionary movement began to increase after the Chinese invasion and by 1968, it made headlines in the country's news media and ushered in an open policy of the Government to restrict the foreign Missionaries in North-East India. The reason the Government gave was that North-East India had become a 'Sensitive area'."[33] In 1968, the Baptist Christian Community had a protest conference with the Roman Catholics about this at the Dibrugarh on the campus of the Don Bosco High School. "By 1974, most of the foreign Missionaries had left from all over North-East India, and the last one, a Nursing Superintendent of Guwahati Mission Hospital, Miss Mary Suderman, left in 1984."[34]

In the last quarter of the twentieth century two important developments took place in the entire Missionary works of Assam.

(i) From the beginning of the Missionary work in Assam, both the Foreign as well as Indian Missionaries started their work uniformly for the entire

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[32] *Catholic Directory of North-East India,* St. Paul's Publications, Bangalore, India, (2002-2003), p. 32.

[33] Saikia, S. K., *History of Education in India,* Mani Manik Prakash, Guwahati, Assam, 2002, p.48.

[34] Rao, O. M., *Among the Churches of the Hills and Valleys of North East India,* ISPCK, Delhi, India 2005, p.xxx.

masses of the state, but in the recent times, the Indian Catholic Missionaries did extensive work among the Tribals and Hill people of the state and found them to be more ripe field for their proselitisation activity. The conversions among these hill people of animistic background were great compared to the Assamese, who with their ancient Hindu faith did not respond well to the Christian Gospel.

(ii) Likewise, it is noticed that with the commencement of the tea plantations in North-East India and the importation of the tea-garden labourers from other parts of India, the Missionaries found that these alien settlers were more receptive to the Gospel, as conversions took place on a large scale. So, a marked shift took place in the Mission work in the plains of Assam, i.e. from the town and villages of the Assamese to the tea settlement areas. Thus, at present, though most of the Missionary institutions like schools, hospitals, orphanages, women's hostels, homes for senior citizens, crèches, presses, etc. were maintained in urban centres like Guwahati, Nagaon, Jorhat, Sibsagar, etc. and the work in the plains of Assam has become largely a rural Mission work.

BOOK REVIEW

Suicide: A Study in Sociology

BY
EMILE DURKHEIM 1897

TRANSLATED BY
JOHN A. SPAULDING and GEORGE SIMPSON 1951
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Suicide, the third major work of French sociologist Emile Durkheim (1858-1917), is of great importance because it is the first serious effort to establish empiricism in sociology, an empiricism that would provide a sociological explanation for a phenomenon traditionally regarded as exclusively psychological and individualistic.

The masterpiece, which runs into over 400 pages, is divided into three parts, and addresses the phenomenon of suicide and its causes. While its first part delves into the "Extra-Social Factors", part two investigates the "Social Causes and Social Types", and part three looks into "General Nature of Suicide as a Social Phenomenon".

Written by one of the world's most influential sociologists—Emile Durkheim, the classic argues that suicide primarily results from a lack of integration of the individual into society. *Suicide* provides readers with an understanding of the impetus for suicide and its impact on the victim, family, and society.

Durkheim proposed this definition of suicide: "the term suicide is applied to all cases of death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result" (excerpt from *Suicide*). Durkheim used this definition to separate true suicides from accidental deaths. He then collected several European nations' suicide rate statistics, which proved to be relatively constant among those nations and among smaller demographics within those nations. Thus, a collective tendency towards suicide was discovered.

To Durkheim, men were creatures whose desires were unlimited. Unlike other animals, they are not satiated when their biological needs are fulfilled. "The more one has, the more one wants, since satisfactions received only stimulate instead of filling needs." It follows from this natural insatiability of the human animal that his desires can only be held in check by external controls, that is, by societal control. Society imposes limits on human desires and constitutes "a regulative force [which] must play the same role for moral needs which the organism plays

for physical needs." In well-regulated societies, social controls set limits on individual propensities so that each in his sphere vaguely realizes the extreme limits set to his ambitions and aspires to nothing beyond . . . Thus, an end or a goal [is] set to the passions. When social regulations break down, the controlling influence of society on individual propensities is no longer effective and individuals are left to their own devices. Such a state of affairs Durkheim calls *anomie*, a term that refers to a condition of relative normlessness in a whole society or in some of its component groups. Anomie does not refer to a state of mind, but to a property of the social structure. It characterises a condition in which individual desires are no longer regulated by common norms and where, as a consequence, individuals are left without moral guidance in the pursuit of their goals. Although complete anomie, or total normlessness, is empirically impossible, societies may be characterised by greater or lesser degrees of normative regulations. Moreover, within any particular society, groups may differ in the degree of anomie that besets them. Social change may create anomie either in the whole society or in some parts of it. Business crises, for example, may have a far greater impact on those on the higher reaches of the social pyramid than on the underlying population. When depression leads to a sudden downward mobility, the men affected experience a de-regulation in their lives — a loss of moral certainty and customary expectations that are no longer sustained by the group to which these men once belonged. Similarly, the rapid onset of prosperity may lead some people to a quick upward mobility and hence deprive them of the social support needed in their new styles of life. Any rapid movement in the social structure that upsets previous networks in which life styles are embedded carries with it a chance of anomie.

Durkheim argued that economic affluence, by stimulating human desires, carries with it dangers of anomic conditions because it "deceives us into believing that we depend on ourselves only," while "poverty protects against suicide because it is a restraint in itself." Since the realization of human desires depends upon the resources at hand, the poor are restrained, and hence less prone to suffer from anomie by virtue of the fact that they possess but limited resources. "The less one has the less he is tempted to extend the range of his needs indefinitely".

By accounting for the different susceptibility to anomie in terms of the social process — that is, the relations between individuals rather than the biological propensities of individuals — Durkheim in effect proposed a specifically sociological theory of deviant behaviour even though he failed to point to the general implications of this crucial insight. In the words of Robert K. Merton, who was the first to ferret out in this respect the overall implications of Durkheim's thought and to develop them methodically, "Social structures exert a definite pressure upon certain persons in the society to engage in non-conforming rather than conforming conduct".

Durkheim uses three proxies for social integration: religion, marital status and political upheavals. In his interpretation, the degree of integration of religious groups is associated with a

lower suicide rate. While suicide is at least common in tightly integrated Jewish communities, it appears more often amongst Catholics, while the highest suicide rate occurs amongst Protestants. Concerning the marital status, he finds that the suicide rate varies inversely with the integration of families. Married people are less likely to take their own lives, while this likelihood even decreases with the number of children they have. As to political upheavals, Durkheim finds that they lead, at least temporarily, to a more integrated society by stirring up collective sentiments.

Durkheim's programme of study, the overriding problems in all his work, concerns the sources of social order and disorder, the forces that make for regulation or de-regulation in the body social. His work on suicide — of which the discussion and analysis of anomie forms a part — must be read in this light. Once he discovered that certain types of suicide could be accounted for by anomie, he could then use anomic suicide as an index for the otherwise immeasurable degree of social integration. This was not circular reasoning, as could be argued, but a further application of his method of analysis. He reasoned as follows: There are no societies in which suicide does not occur, and many societies show roughly the same rates of suicide over long periods of time. This indicates that suicides may be considered a "normal", that is, a regular, occurrence. However, sudden spurts in the suicide rates of certain groups or total societies are "abnormal" and point to some perturbations not previously present. Hence, "abnormally" high rates in specific groups or social categories, or in total societies, can be taken as an index of disintegrating forces at work in a social structure.

Durkheim distinguished between types of suicide according to the relation of the actor to his society. When men become "detached from society," when they are thrown upon their own devices and loosen the bonds that previously had tied them to their fellow, they are prone to **egoistic**, or individualistic, suicide. When the normative regulations surrounding individual conduct are relaxed and hence fail to curb and guide human propensities, men are susceptible to succumbing to anomic suicide. To put the matter differently, when the restraints of structural integration, as exemplified in the operation of organic solidarity, fail to operate, men become prone to egoistic suicide; when the collective conscience weakens, men fall victim to anomic suicide.

Anomic suicide was of particular interest to Durkheim, for he divided it into four categories: acute and chronic economic anomie, and acute and chronic domestic anomie. Each involved an imbalance of means and needs, where means were unable to fulfil needs. Each category of anomic suicide can be described briefly as follows:

- *Acute economic anomie:* Sporadic decreases in the ability of traditional institutions (such as religion, guilds, pre-industrial social systems, etc.) to regulate and fulfil social needs.
- *Chronic economic anomie:* Long term diminution of social regulation. Durkheim identified this type with the ongoing industrial revolution, which eroded traditional social regulators and often failed to replace them. Industrial goals of wealth and

property were insufficient in providing happiness, as was demonstrated by higher suicide rates among the wealthy than among the poor.

- *Acute domestic anomie*: Sudden changes on the micro social level resulted in an inability to adapt and therefore higher suicide rates. Widowhood is a prime example of this type of anomie.
- *Chronic domestic anomie*: Referred to the way marriage as an institution regulated the sexual and behavioural means—needs balance among men and women. Marriage provided different regulations for each, however. Bachelors tended to commit suicide at higher rates than married men because of a lack of regulation and established goals and expectations. On the other hand, marriage has traditionally served to over-regulate the lives of women by further restricting their already limited opportunities and goals. Unmarried women, therefore, do not experience chronic domestic anomie nearly as often as do unmarried men.

In addition to egoistic and anomic types of suicide, Durkheim refers to altruistic and fatalistic suicide. The latter is touched upon only briefly in his work, but the former is of great importance for an understanding of Durkheim's general approach.

Altruistic suicide refers to cases in which suicide can be accounted for by overly strong regulation of individuals, as opposed to lack of regulation. Durkheim argues in effect that the relation of suicide rates to social regulation is curvilinear—high rates being associated with both excessive individuation and excessive regulation. In the case of excessive regulation, the demands of society are so great that suicide varies directly rather than inversely with the degree of integration. For example, in the instance of the Hindu normative requirement that widows commit ritual suicide upon the funeral pyre of their husbands, or in the case of *hara-kiri*, the individual is so strongly attuned to the demands of his society that he is willing to take his own life when the norms so demand. Arguing from statistical data, Durkheim shows that in modern societies the high rates of suicide among the military cannot be explained by the deprivations of military life suffered by the lower ranks, since the suicide rate happens to be higher for officers than for enlisted men. Rather, the high rate for officers can be accounted for by a military code of honour that enjoins a passive habit of obedience leading officers to undervalue their own lives. In such cases, Durkheim is led to refer to too feeble degrees of individuation and to counter pose these to the excesses of individuation or de-regulation, which account, in his view, for the other major forms of suicide.

Durkheim's discussion of altruistic suicide allows privileged access to some of the intricacies of his approach. He has often been accused of having an overly anti-individualistic philosophy, one that is mainly concerned with the taming of individual impulse and the harnessing of the energies of individuals for the purposes of society. Although it cannot be denied that there are such tendencies

in his work, Durkheim's treatment of altruistic suicide indicates that he was trying to establish a balance between the claims of individuals and those of society, rather than to suppress individual strivings. Acutely aware of the dangers of the breakdown of social order, he also realized that total control of component social actors by society would be as detrimental as anomie and de-regulation. Throughout his life he attempted to establish a balance between societal and individual claims.

Durkheim was indeed a thinker in the conservative tradition to the extent that he reacted against the atomistic drift of most enlightenment philosophy and grounded his sociology in a concern for the maintenance of social order. As Robert Nisbet has shown convincingly, such key terms as *cohesion, solidarity, integration, authority, ritual,* and *regulation* indicate that his sociology is anchored upon an anti-atomistic set of premises. In this respect he was like his traditionalist forebears, yet it would be a mistake to classify Durkheim as a traditionalist social thinker. Politically he was a liberal—indeed, a defender of the rights of individuals against the state. He also was moved to warn against excesses of regulation over persons even though the major thrusts of his argument were against those who, by failing to recognize the requirements of the social order, were likely to foster anomic states of affairs. Anomie, he argued, was as detrimental to individuals as it was to the social order at large.

The final type of suicide is **Fatalistic suicide**, "at the high extreme of the regulation continuum". This type Durkheim only briefly describes, seeing it as a rare phenomena in the real world. Examples include those with over regulated, unrewarding lives such as slaves, childless married women, and young husbands. Durkheim never specifies why this type is generally unimportant in his study.

Durkheim felt that his empirical study of suicide had discovered the structural forces that caused anomie and egoism, and these forces were natural results of the decline of mechanical solidarity and the slow rise of organic solidarity due to the division of labour and industrialism. Also of importance was Durkheim's discovery that these forces affected *all* social classes.

This is where the true sociological value of *Suicide* emerges. Because social forces that affect human behaviour are the result of previous human actions, it is the role of sociology to expose and understand these actions as the foundations of societal structure. These structural phenomena are at the root of human society, and through scientific, statistical methods—integrated with informed theory and educated conjecture—the function of these structures can be comprehended.

Durkheim meant to show that a Spencerian approach to the social realm, an approach in which the social dimension is ultimately derived from the desire of individuals to increase the sum of their happiness, did not stand up before the court of evidence or the court of reason. Arguing against Spencer and the utilitarians, he maintained that society couldn't be derived from the propensity of individuals to trade and barter in order to maximise their own

happiness. This view fails to account for the fact that people do not trade and barter at random but follow a pattern that is normative. For men to make a contract and live up to it, they must have a prior commitment to the meaning of a contract in its own right. Such prior collective commitment, that is, such a non-contractual element of contracts, constitutes the framework of normative control. No trade or barter can take place without social regulation and some system of positive and negative sanctions.

Durkheim's main shafts against individualistic social theories notwithstanding, he was by no means oblivious of the dangers of over-regulation to which Spencer's social philosophy had been especially sensitive. Durkheim saw man as *Homo duplex*—as body, desire, and appetite and also as socialised personality. But man was specifically human only in the latter capacity, and he became fully human only in and through society. Hence, true moral action lies in the sacrifice of certain individual desires for the service of groups and society. But such sacrifices return in the last analysis to the benefit of individuals, as well as society, since unbridled desires lead to frustration and unhappiness rather than to bliss and fulfilment. Modern society seems to contain, for Durkheim, the potentialities for individualism within social regulation. In contrast to earlier types of social organization based on mechanical solidarity that demanded a high degree of regimentation, modern types of organization rest on organic solidarity obtained through the functional interdependence of autonomous individuals. In modern societies, social solidarity is dependent upon, rather than repressive of, individual autonomy of conduct.

Though Durkheim stressed that in modern societies a measure of integration was achieved through the intermeshing and mutual dependence of differentiated roles, he came those that these societies nevertheless could not do without some common integration by a system of common beliefs. In earlier social formations built on mechanical solidarity, such common beliefs are not clearly distinct from the norms through which they are implemented in communal action; in the case of organic solidarity, the detailed norms have become relatively independent from overall beliefs, responding as they do to the exigencies of differentiated role requirements, but a general system of overall beliefs must still exist. Hence Durkheim turned, in the last period of his scholarly life, to the study of religious phenomena as core elements of systems of common beliefs.

In nutshell, *Suicide* is a path-breaking work that proposes a sociological basis to the phenomenon of suicide. Even though some of Durkheimian ideas may not today fit into the modern cultural landscape, the classic continues to illuminate the path for sociologists inquiring into suicide.

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