

Reforming College Education

by Tahmina Begum and Helal Uddin Ahmed

THE present system of examination, as practised in our colleges, has been widely criticised as inappropriate and ineffective. For most students, the examinations appear to be more important than the acquisition of knowledge. The emphasis has been on the successful retention of some facts for a brief period, rather than on the more arduous but rewarding aim of mastering a subject, understanding its principles, and learning how to apply this understanding to real life situations.

So there remains the task of devising a system of examination which does not merely call for memorization of text books, notes and lectures, but which encourages true learning and which tests whether a student has mastered his subject and can fruitfully apply his knowledge. The US model can easily be adopted for the purpose, but that will require newer attitude both from teachers and students.

Teacher's function

The primary task of a teacher is to stimulate the interest of the student in his field of study, to awaken a spirit of inquiry and criticism, and to develop the habits of industry, patience, and perseverance. A teacher's function may be categorized in the following: (a) Teaching, (b) Research, (c) Personal study, (d) Contact with students.

There is a general impression that the task of a teacher is merely to give lectures, and in practice that is what most teachers do. This impression needs to be corrected. Actually lecturing is a small part of his duties. There is also a growing tendency amongst college teachers to be casual about punctuality and to frequently absent themselves from classes altogether. What is equally deplorable is their lack of interest in research activities.

In developed countries, a large part of a teacher's time is spent on tutorial work. In our colleges this is an exception rather than the rule. By tutorial we mean regular weekly meetings of teacher and a small group of students. A tutorial is

not an occasion for lecturing by a teacher, nor is it an informal conversation piece. It is in fact an opportunity for a teacher to get to know his students.

It is a means to discover their potential abilities, stimulate them through discussion, test their responses to what they have read and to offer them advice individually. A tutorial should help to clarify a student's mind and send him back to his books with a new awareness and a newer interest. With the exception of a

few dedicated ones, the vast majority of our college teachers spend little time, if any, for improving their own knowledge or for updating themselves on their own subjects.

Much is expected of our teachers, a high degree of professional competence and a great deal of hard work — more than what is the case today. It is important therefore that he be given a salary that will keep him reasonably contented, provided with amenities conducive for creative academic living and offered career prospect capable of motivating him professionally.

Student morale and discipline

We have evidence that a high proportion of our students are altogether unsuited for college education. However faulty the teaching or limited

the facilities, the plain fact is that we are allowing into our colleges and universities many thousands of students who are foredoomed to failure, and who know they are. Here is a major problem of indiscipline.

There is little doubt that the morale of the student community is not high and that student discipline is a major problem. The reason frequently advanced for this is the absence of a proper relationship between the teacher and the student. The situation is so acute that a guidance and counselling scheme for college students is urgently needed. To raise the morale of students and inculcate the habits of discipline in them, the colleges should provide increased facilities for sports and cultural pursuits, and foster wholesome outlets for balanced growth. Besides, administration of regular monthly examinations together with weekly tutorials on a regular basis would promote the habit of serious and sustained study.

Campus unrest

There are historical reasons for student-unrest in our country beginning with the days of the British Raj. The freedom-struggle of the subcontinent, the historic language movement, the mass upsurge of 1969, the heroic war of liberation (1971), and anti-autocracy movements in independent Bangladesh (1972-75 and 1982-90) all employed with singular success both passive resistance and civil disobedience. They depended for their success on the participation of both the students and the teachers.

It is to the credit of the academic community that it made valuable contributions to the cause of freedom and democracy.

Unfortunately, once the turmoils were over, the teacher could not return to the classroom or laboratory, nor the student to his studies. Some politicians in the past have continually attempted to embroil the academic community in partisan politics.

To achieve their partisan goals they have pitted student against teacher, student against teacher, and teacher against teacher, and when it suited their purpose both teacher and student against the lawful authority of the educational institutions. The result had been a gradual waning of the influence of teachers and administrators and the undermining of the morale of academic community.

If the integrity of our colleges is to be maintained and they are to fulfill their rightful obligations, we should not allow the campus to become an

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arena for partisan politics. It is high time that the teachers and students realized that the momentous battle for freedom and democracy is behind us and that our future will be poorly served by dissension, agitation and violent political activity on the campus.

Unplanned growth

Many of our colleges are held in low esteem because they are poorly staffed and poorly equipped. This has caused severe deterioration in overall standard of college education. Ideally no college should be allowed to function unless it has adequate resources. Unfortunately, during the past decades many colleges had been started without fulfilling the conditions laid down by the universities for

affiliation. The past governments themselves were not free from blame because they had established or nationalized a number of colleges which did not possess suitable buildings or equipments. The universities also were lax in enforcing rules of affiliation either due to external pressure, or due to their own craving for popularity. To accord affiliation to a college which lacks staff, accommodation or equipment is an act of disservice to the nation and the student community.

In this context, the 1974 education commission and the subsequent national education commission (1988) has recommended setting up of a separate affiliating university for college. The latter commission opined that it is not possible to properly evaluate and solve the various problems confronting our colleges by keeping them affiliated with Dhaka, Chittagong and Rajshahi universities.

These universities are so preoccupied with their own problems that they cannot spare sufficient time or effort to look after the college affairs. Besides, this additional responsibility hampers proper functioning of their own academic programmes.

If an affiliating university for our colleges is set up according to the recommendation of the 1974 and 1988 education commissions, it will be able to participate in and contribute more fruitfully the improvement of the curriculum, teaching method and examination system of our colleges. This is most likely to bear a positive influence on efforts to raise the standard of our college education.

It is ironic that in the past much time, effort, and resources were expended for formation of education commissions and formulation of voluminous reports by them, but the suggestions they made were seldom implemented and mostly remained in the storehouse year after year. It is high time that these reports were given due importance and honest attempts were made to implement those suggestions.

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To discriminate against girls in education is the biggest mistake of all. The education of women usually brings with it the confidence to adopt new ways, more use of social services, better child care and nutrition and fewer child deaths

Photo — (UNICEF)

Child Approaches Child

by Richard Phinnery and Judith Evans

In recent years a new approach to child education, called Child-to-Child, has been trying to turn this harsh reality into an opportunity. The aim is to train young child-minders as health messengers.

"We find that parents don't share information as much as children do," says Indu Kapoor, executive director of the Centre for Health, Training and Nutrition Awareness, which provides training and assistance to groups implementing Child-to-Child programmes in India. "As child shares the message and awareness very quickly because they are always talking, playing or dancing."

The Child-to-Child approach, although already in use in several countries, was given

tried avoid pushing preconceived notions of how the concept should actually be applied. Although the Institute of Child Health in London collects and shares information on various projects around the world, the assumption is that those living in a given cultural milieu are best able to adapt the approach to local conditions.

This flexibility has certainly been partly responsible for the Child-to-Child movement's vitality and popularity, but it also has meant that there have been few systematic attempts

for instance, runs 19 educational centres in Bombay for the children of migrant construction workers. On a typical construction site, several dozen workers (men and women) live in miserable conditions with their children.

"While their parents are busy working to provide income, the children are left to fend for themselves," says Dr Indu Balagopal, executive director of the Mobile Creche project. "Children are usually seen wandering around the building site, older siblings carrying younger ones on their hips."

They are burdened with responsibility of caring for the younger sibling. "It makes sense, therefore, to target these children."

Classrooms at these sites are makeshift: a temporary shelter of sheet metal and wood, or perhaps a half-completed apartment. Activity-based learning about hygiene, safe water, measles, and other health issues is integrated into the teaching of other topics, such as literacy and numeracy.

The centre accepts children between the ages of one month and 12 years; children normally attend for about 6 months before the family moves to another construction site.

The New Delhi Municipal Corporation provides a distinctly different setting in a lower, middle-class suburb of the capital. Although the facilities are better, teachers face the usual challenges of overcrowded classrooms, low salaries, and minimal supervision and encouragement.

Through a range of action-oriented activities, students here practice simple rules of health, hygiene, and nutrition. This project represents the first attempt in India to use the Child-to-Child approach in a large, government-maintained school system. Beginning in 32 schools in 1987, the project expanded to 108 in 1990.

A similar project at the Aga Khan Education Service Boys and Girls Schools in Bombay, used the Child-to-Child approach to cover various health-related topics: diarrhoea, burns and eye care. The Malvani Child-to-Child project began in a health clinic in a community of resettled slum dwellers in Bombay, supported by a local medical college.

From the beginning, this project placed emphasis on identifying primary school students who could act as "minddoctors" to assist the health centre in reaching out to the community. The children diagnose basic

conditions such as scabies, a skin rash prevalent in unsanitary areas, and mobilize the community for immunization campaigns. The minddoctors have also conducted health surveys and hundreds of Oral Rehydration Therapy demonstrations.

Finally, the Foundation selected three, Child-to-Child projects for primary school children in rural Rajasthan and Gujarat. In each case, the local non-governmental organisation (NGO) was given training and technical support by the Centre for Health Education and Nutrition Awareness.

A key question the Aga Khan Foundation and IDRC wanted to answer was if these projects were successful in meeting their goals. Three evaluation teams followed the progress of the various projects over 3 years.

In terms of increasing health awareness of both children and teachers, the evaluations found that all the projects achieved positive results. A number of lessons can be gleaned from a comparison of the Indian Child-to-Child initiatives.

The formal school system allows access to large numbers of children and provides "captive audience". Schools allow others to view the project, whether in the form of visiting health workers or the setting up of experimental programmes.

They are also highly valued and respected in the community. By comparison, outreach from health clinics can be costly, requiring an infrastructure that frequently does not exist.

Experiences in India suggest that too little though was given to training, particularly in terms of follow-up. No matter how much teachers may learn from a 5-day course, most will not be able to follow through unless they are given additional training material and regular meetings with others. If possible, more than one teacher at a school should be trained in this approach so they can share experiences.

If the school has only one teacher (as is the case in many rural areas of the developing world) then regular supervision and encouragement are needed.

When the total organisation is behind the effort, Child-to-Child is more readily accepted than when teachers are more or less on their own. The support of heads of schools and central administrators is often a large factor in getting programmes off the ground. It is also important to try to involve as many staff in the decision-

making process as possible.

The evaluations showed that teaching styles, for the most part, did not become child-centered simply because of the introduction of the Child-to-Child approach. Teachers are most likely to teach in the way they have been taught. If teachers were lectured to or expected to copy notes and memorize information that is not directly linked to their experiences, they are likely to pass on knowledge in the same way.

Although mass-produced Child-to-Child activity sheets were useful as models, it was most effective to have teachers create new activity sheets in training workshops. This was a good way to get teachers to understand their role in Child-to-Child projects and to become committed to the approach.

On the important and serious subject of diarrhoea, for example, what used to take less than one period of teaching by traditional textbook methods can take up to eight periods in a Child-to-Child class, as it did in the Bombay primary schools. Although the child-centered approach may be more effective, teachers are often under pressure to complete the syllabus no matter what.

A key strategy then is to ensure that the Child-to-Child approach is full and realistically incorporated into existing programmes.

In rural areas, parents more readily accepted the information their children passed on but, in the cities, there was more scepticism. In the Malvani project, the "minddoctors" initially became discouraged when no one would listen to them.

(IDRC Reports)

Centre for Advanced Technology

by Mulugu Somasekhar

IN the picturesque environs of the Sukhniwal palace, situated about 20 kms from Indore in Madhya Pradesh, is the country's frontline institute engaged in building particle accelerators and developing of up-to-date laser technologies.

The Centre for Advanced Technology (CAT), a baby of the erstwhile accelerator group of the Bhabha Atomic Research Centre (BARC), Trombay, which is expanding

fields like gynaecology, oncology, neurosurgery as well as general surgery. The system consists of a carbon dioxide laser head which can deliver upto 70 Watts power.

"We have now diversified our work in the laser areas from pure medical applications of research and development as well as industrial applications," CAT scientists told PFI Science Service at Indore.

CAT scientists are now working on advanced models

(YAG) also for medical applications. The YAG lasers can be used in clearing arterial blocks in the heart as well as substitute for diamond cutters in the tool industry.

The country is at present importing most of these laser systems, and by indigenously developing this range, cost upto 40 per cent can be cut, CAT scientists said.

To accelerate work in the laser field, the centre has also set up a facility for growing crystals which performance of laser systems.

The CAT which was allotted Rs. 360 million during the seventh Five Year Plan has spent most of its funds in building various research laboratories spread over the large campus.

The centre is all set up to make a mark in the field of particle accelerators with scientists are in the final stages of building the electron storage ring-synchrotron radiation source (SRS) — INDUS-1.

This synchrotron, which is expected to be operational by 1992 can store electrons with energies of 450 Mev. The INDUS would serve as a national facility accessible to all universities and research institutes.

It would be the first of a series of synchrotron, with INDUS-2 slated to be commissioned by 1995. CAT also plans to embark on the construction of large diameter particle accelerators.

Particle accelerators have varied applications in both basic sciences research and medical and industrial area. The high energy particle beams provided by accelerators have proved to be the effective probes for unravelling the innermost structure of matter and the forces that govern its behaviour. The higher the energy of the probe, the smaller the size of matter that can be studied.

Smaller accelerators are finding increasing use in medicine and industry. They can be used on lines of X-ray machines.

The high energy beam that is generated in the accelerator has been found to be effective in killing

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into a major research facility.

After the shift of a group of scientists from BARC to CAT in 1986, the centre earnestly began building laboratories and settled down to research in the three mandate areas of lasers, particle accelerators and fusion research. It first shot into limelight in May 1990 when the first carbon dioxide surgical laser was successfully fabricated and handed over to the Choitraim hospital in Indore.

The laser was successfully used while performing surgery in two patients suffering from problems of the larynx in December 1990, according to CAT scientists.

The scientists said the carbon dioxide surgical laser system can be used in diverse

of medical lasers to make them more versatile and economical for use. In the area of industrial lasers, CAT has developed a 500 Watt carbon dioxide laser with five limbs.

This laser is being coupled to a microprocessor-controlled work table for applications like surface hardening, drilling and welding.

The centre is now engaged in making laser systems with powers upto 5 kW. A one kW transverse flow carbon dioxide system is on the verge of completion.

CAT scientists have undertaken an ambitious programme to develop two more types of lasers using gold vapour and yttrium-aluminium-garnet



The Child-to-Child active learning approach assumes that children will pass on information effectively if they are encouraged to discover its meaning and importance themselves.

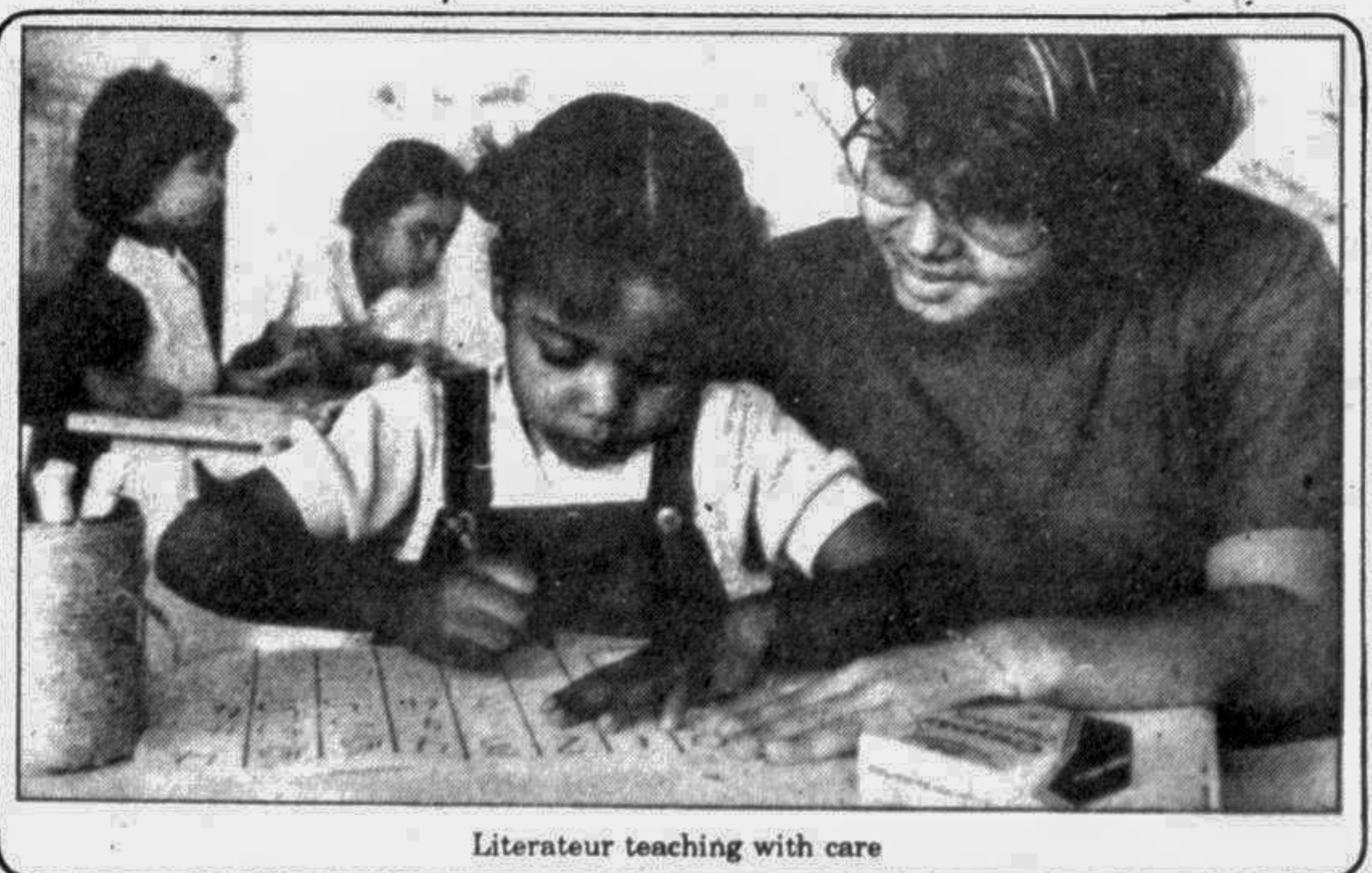
a name in 1979 — the International Year of the Child — by a group of health and education professionals. Today, the approach is being practiced in more than 70 countries.

The ultimate goal of this approach is for children to reach out to the entire family and community, making it a healthier environment for all who live there. Another guiding principle of the Child-to-Child approach is child-centred, or active, learning. This runs counter to the practice of education in many countries of the world where children still learn passively, by rote.

The approach assumes that children will retain and pass on information effectively if they are encouraged to discover its meaning and importance themselves. This applies to other subjects as well, not just health. Indeed, many educators see this innovative as a way of bringing active learning "through the back door" into schools that still use traditional teaching methods.

Beyond this general principle of active learning, advocates of Child-to-Child have

The Mobile Creche project,



Literature teaching with care

(PFI Science Service)