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LEARNING BY DOING – OUR EXPERIENCE
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The philosophy of learning by doing is widely accepted. Immediately after Independence, the basic education or "Nai Talim" was introduced and still survives; in various forms in isolated locations. Kishore Bharati, in Madhya Pradesh, has successfully implemented, in Hoshangabad District, a science education, program, based on learning by doing. The demand for technical education in schools and introduction of " work experience" periods also indicates in some way the learning by doing philosophy.

I shall present in this paper, our experience in trying to develop a system of education for the 15-23 age group at Vidyan Ashram, which is a Centre of the Indian Institute of Education, and is located at Pabal, in the Pune District, and about 60 kms north of Pune. The Pabal group of villages lies between the Pune- Nasik and Pune-Aurangabad highways. They have a population of approx 10, 000, Pabal alone about 3000. It has a high school, several doctors. Is electrified and has a Gram Panchayat.

The non-formal education system we are trying to develop has the following four main features:

1. Learning by doing.
2. Problem solving orientation.
3. Earning while learning.
4. Community paying for the services it receives.

The System & Its Implications:

Learning by Doing implies, a) availability of equipment & materials, b) mistakes during the learning process leading to wastage and consequent extra cost. e) Repeat operations so that skills are practiced and consolidated, d) Finished job finding some use and thus proving the quality or otherwise of the job done,

Doing an experiment to gain understanding of principle is not included in the above definition, because it does not directly lead to problem solving, earnings, or community service. Such experiments - the discovery approach-have a value as a teaching aid and has been used as such. On the other hand the above description of Learning by Doing led to the following strategy,

1. Only the basic tools & equipment were purchased, and all other facilities were planned to be built -through the trainees. Thus Purchased: Workshop tools and materials

Built through trainees: Furniture, buildings, and other equipment.

2. High priority areas were identified, so that learning was linked to community needs. Areas chosen:

Water resource development

Housing and storage

Maintenance and repair service

Agriculture and animal husbandry

Energy and transport, women's education, health etc. though important, received only subsidiary attention, because of lack of proper staff, this is now being corrected.

3. Trainees were paid on job-rates as otherwise supervision and wage records become complicated.

The Experience

In the first year, 1983, the stress was on building the facilities with some sacrifice on quality of job done and all trainees learning properly. No publicity was given to the program and only those who came on their own, were taken. Many dropped out and only about 21 stayed through and did useful work. No examinations were given- their work was their valuation and record.

The net output was: a local workshop:

5 boys doing simple welding and fabrication Jobs
2 boys doing simple electricals and plumbing
8 boys doing cement and roofing jobs
8 boys doing water table monitoring, prospecting etc,
They produced the following assets:
180 Vertical Electrical soundings, worth approx Rs 90,000
approx 1600ft of work area at a cost of Rs. 45,000
720ft of housing but worth about Rs. 90,000
a well, pipeline and pumping system@ Rs. 16,000

Table 8, racks, cots etc. for own use at 40 of market rates
A steel structure for the local school, worth approx Rs. 5000
Services: pesticide, repair and maintenance etc.

REVIEW:

While the results were most encouraging, the following weaknesses were noted. 1) The stress was more on development and construction and less on education. 2) Not enough discipline was maintained. 3) The full educational benefits from the work done could not be extracted. 4) Not enough attention for the training program for girls.

CURRENT STRATEGY:

The educational content in four areas has been now formalised viz. 1) Water resource development 2) Electrical and Plumbing 3) Workshop Technology 4) Sewing and knitting. The construction, agriculture, and animal husbandry are yet to be given a defined form.

We have also started a joint program with three high schools for giving the work experience. Eighth standard students from the Bhairavnath Vidya Mandir, come to us in batches, three times a week and XI th twice a week, a total of 210 students. The students of the high schools in Loni and Dhamari get their work experience in their own classes; we give the kits and training to their teachers. There is also a village level centre at Khairnagar, equipped for sewing, carpentry, & pest control training. But this is not working satisfactorily.

Among the 21 boys formally registered for training, four have dropped out. The others are progressing well, and do their study for three days and jobs for three days. The lessons both practical and classroom are being written down and will form the basis of self-learning texts.

CONCLUSION:

A program of learning by doing, with problem solving orientation earning while earning, and community service is being developed. This approach seems a feasible way of integrating education with development. The limitation to more rapid progress appears to be our own lack of proper technical material and skills, and lack of even the simple arithmetical skills in even the 8-11 th std students. They also have very poorly developed abilities to concentrate on the job in hand and ability to visualise relatively the girls coming to the sewing and knitting classes show more perseverance and discipline. However, overall the trainees have shown the potential, to learn the skills, that were well beyond -their range at the beginning, and that they can provide critical services in the nations development program, at a saving in cost and with their own educational development.

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