

The Challenge of Education & One Option

Dr S.S.Kalbag

Vidnyan Ashram : Indian Institute of Education, Pabal
Dist Pune 412403.

The Challenge in brief ...

- * Human Resource Development is the main objective.
- * The school system should be integrated with the environment and the community.
- * There should be exposure to challenges, in order to develop creativity and innovation.
- * Constraints: Lack of even the basic facilities in many schools High drop out rate – because of economic necessity and perhaps lack of credibility in the systems. Shortage of suitably trained teachers Scarcity of Finances Can the community or other development agencies share the education coat?

And One Option

2• This note describes an option at the secondary education level. But the concept is equality applicable to primary education and middle school (std. I to IV and V to VII) See Yojana, Jan 26, 1985 issues: "Learning to Own Technology – S.S.Kalbag)

The suggested solution is being developed on an experimental basis on school dropouts in Pabal since Jan. 1983. See broacher attached.

3 A different Perception:

A few subtle change as described below, in the problem perception open up new approaches.

Science: Science in school should not be segmented into various disciplines, it should be considered as a way of understanding nature. This involves certain skills, which collectively constitute the scientific approach. These include ability to experiment and explore; observation measurement and recordings of data; classification of information and/or objects and recognising patterns; forming general concepts from individual separate cases; forming hypothesis and testing them and the ability to visualise.

Learning and practicing these skills should constitute the science in the schools. The subject matter for study and experimentation can be taken from the local environment for better relevance and understanding - as illustrated later.

Knowledge is different from information. What we give today in schools is information. Tied together by threads of experience - it will become knowledge

Discovery- is generating new knowledge; invention is application of available knowledge. Discovery needs the exceptional mind but inventions small or big, can be and should be attempted by every one. All big discoveries are based on thousands of little inventions that make up today's technology.

Vocationalisation: Strictly defined it is acquiring specific skills for launching one into a vocation. Closing one's options at the XIth standard will not appeal to the ambitious students. Rather the secondary school curriculum should provide for giving a package of skills with a wide assortment. Learning skills and subsequent activity stimulates the mind by developing memory and visualisation. Just as a variety of exercises are required to tone all the body muscles, so are varieties of skills necessary to energise the mind. Every scientist knows how much good research is based on support from "skilled" technicians - for maintaining instruments, devising new ones and even for carrying out sophisticated experiments.

What we need to give in the secondary schools (VIII-X) is not one vocational skill, but a fair experience of a range of skills useful to every one in this technology age. One

must not underestimate the contribution of to "do-it-yourself" culture even in this age of specification, in the more developed countries.

4. The Novel Approach:

Science should be taught "by taking up the problems of the community and the local environment and attempting to solve them with the involvement of the students. This brings in social relevance, practical skills and by natural selection only the more basic and fundamental scientific concepts - and reinforces them by repetition. It has also the advantage of building up educational facilities through students own efforts, giving service to the community (for which it pays) and gives to the students scientific knowledge and not just information, (see brochure attached)

In such a system, students participate by locating new water sources, building sanitation facilities, small bunds, repairing borewell pumps, raising poultry, social forestry etc. A link with the rural development programs can be built. Such a link also allows for payment for labour and materials through the development programs. Because of the Community participation, there is a Continuous-evaluation of the results achieved

5. Replicability:

A program on the above guidelines is operating in one village for over two years now. A similar composite program is now being tried on school dropouts. Permission on actual trial in 9th, 9th and 10th standards has been delayed in procedural tangles, even though both the director of Education and the Director of Vocational Training have supported it. It is expected that if the program is demonstrated in one or two schools with teachers who have undergone the Course earlier, then replicability will be facilitated. Both the teachers and the hardware facilities can be produced as part of the course program and their availability will therefore increase exponentially.

6. Finance:

While the investment for such a technical school, will be higher than for an ordinary high school, all this equipment will be used not only for education but also for giving essential products and services to the community. Also the system 'allows for the full utilisation of most of the equipment in terms of time, unlike' most equipment in schools, which is used for only a fraction of the time. It is therefore fair to expect that this Investment will not only develop human resource but also produce economic development at the same time and will therefore be a good financial investment.

7. Extension of the Concept:

The same concept can be extended to cover "Work Experience " classes in existing schools and also to primary schools, where the activity will be chosen to suit the younger age group. Whereas we have chosen for our area, water resource, development, construction, workshop services, energy and transport, agriculture and animal husbandry as the topics for work, another area may select other topics. The composite course can also be given outside the school system to school dropouts as is being done by us now. The concept is therefore widely applicable.

8. Action Needed:

- a) The procedural tangles that are now delaying the first trials in a formal school, need to be immediately cleared.
- b) A few technical and educational planners need to look at alternate course material
- c) A small group should commit themselves to produce and further test the text, which demystifies the science involved in the practical work.
- d) One group should examine the financial implications of this concept being extended to whole of India.

