

Interactive Distance Learning

Using it for functional literacy, vocational skills and for increasing employability

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As developing countries try to re-affirm their ability to be counted among the best in the world, one of the most serious vulnerabilities they will confront is the quality of skill sets available with their respective populations. The second biggest challenge is to ensure that the world know the person has a skill and is available for employment.

Three issues need to be addressed:

- How to reach out to a person in the remotest of areas yet ensure effective learning and evaluation;
- How to issue a certificate that would be acceptable to the employment markets, and
- How to let the world know that the person who has the skill is available.

Most important is the need to ensure that the solutions are simple and extremely cost-effective.

Ten years ago, the problem was not so serious. Trade and tariff barriers could insulate any workforce that was unskilled and illiterate. But today, the unskilled - especially the illiterate -- workforce remains more vulnerable and a social and political nightmare.

This will hit the poor most savagely, as most well-educated members of the workforce come from higher income families. They can cope with change far more effectively, and even move up the value chain. Unless the poor are given the benefits of good and employable education, they will be far worse off than today. Unlike the affluent, education makes sense for the poor only if it leads to a job. While most second generation educated families have begun to see education as a very valuable investment, most poor people have very short time horizons. If a course can lead to a job in six months, that would be wonderful! And if the costs are reasonable, it would add to the appeal. Lastly, if the course could be taken at a place not far from where the family stays, nothing could be better. Failure is not a problem. The student will try to improve by attempting the examinations once again, and over again. What matters is the pot of gold in the form of a job at the end of the rainbow.

But to do all this one will have to overcome the paucity – and declining numbers -- of good teachers at all levels, and yet keep total costs low without losing effectiveness. All these objectives can be achieved by using open source interactive distance learning platforms and quality content and workshop modules (preferably certified by the best brands in industry).

SOME BASICS

When one looks at the entire realm of education – especially functional literacy – much of the curriculum can be broken up into three parts.

The first part is the teacher. If the teacher is good, students generally understand the subject easily, and quite well. But if the teacher is bad, even a student interested in a subject may get 'turned-off' and may even begin to dislike the subject. That is why most e-learning material available on the web is often ignored by most students. To go through content on the web, without being mentored and monitored, is not easy for students who are not strongly motivated. If a student is motivated, he may not even require a teacher. He can pick up a textbook, or some ready-reckoners that are always available at the local friendly book store, and study the subject himself. The biggest problem is that most people are not that strongly motivated. Hence they need the assistance of a teacher who can provide him with an audio-visual shortcut to profundity.

The second part, Practice: Once the teacher is found, and the student is taught a subject, his excellence in that area of study will depend on the second important factor – practice. In subjects like mathematics, this will

involve solving a variety of sums based on the same mathematical principle over and over till the logic of the situation gets 'wired' in a child's head. The more the practice, the better does the student become when it comes to solving more complicated sums at later stages. In subjects that are skill based – like plumbing, welding, optometry etc., you will require a workshop where the student can actually practice what he has learnt, several times over, till doing that type of job becomes almost second nature to him.

Undoubtedly, this will mean that the workshop is well designed, and that the instructor is a skilled mentor. But more on this aspect a bit later.

The third part of the entire educational process is certification, which informs the world that the student possesses skills of a certain calibre. As is true with all certification, the credibility of the certification will depend on some critical factors:

- (i) whether the certification process is credible or not,
- (ii) whether the quality standards that the certificate is meant to certify have been maintained fairly and uniformly across all the students, and
- (iii) whether people know about this certificate. There is no sense in having an excellent certificate along with quality controls in place, if a large section of the user industry isn't even aware about the existence of this course or certificate. Some certification providers achieve this through a passage of time, where good work leads to word of mouth appreciation. Others achieve it through aggressive brand building, by advertising the course and informing students about how successfully placed are students who have completed this certification programme. And there are others who combine all these techniques with an equally aggressive placement programme where the certification provider actually tries to get all the students jobs in the market.

In other words, certification is – many academicians may not like this term – no different from **branding**. The brand in the corporate world stands for a value, and pitches expectation to match the delivered results. Along with the value come in a host of pre-requisites – good 'manufacturing' practices, quality control, and excellent marketing.

WHAT COULD BE SOLUTIONS

The paucity of good teachers is likely to remain a serious problem for most countries. This is true even for countries like India. It boasts of having one of the largest pools of skilled manpower though this is not true in percentage terms, http://www.yes2etl.com/Article_2006_11_India%20is%20not%20an%20open%20society.html. In many countries, the false notion that teaching is a noble profession – hence teachers should not be overly concerned with the salary levels that the material world hankers after – has resulted in the best brains leaving the teaching profession over the past six decades and opting instead for better paying professions like banking, the financial sector, management and engineering among others.

In several countries, educational administrators quite fretful about the role of part-time professionals like chartered accountants who teach accounts, or practising doctors who also give lectures, have actually introduced rules forbidding the recruitment of part-time professionals. Systematically, in an attempt to consolidate their administrative hold over the teaching fraternity, many educational administrators have actually prevented educational institutes from the practical wisdom that part-time professionals bring. An administrative solution has killed the spirit of academics and skill development. In fact, one of the reasons why education has collapsed in India beyond what most people imagine is the absence of good teachers in a fast corruding educational system http://www.yes2etl.com/Article_2006_04_Education_The%20minister%20must%20be%20joking.htm

With a declining number of good teachers, one has to make do with just a few good teachers. But this is precisely where technology can be a godsend. **Interactive distance learning (IDL)** allows a single good teacher to sit in the studio and 'broadcast' or 'multicast' her session to thousands of people spread across a vast and dispersed area. Unlike a television broadcast, where a person can turn on the TV set and go out for a cup of tea, the multicast session interacts with the student, asking the student every 5-10 minutes to respond to a query. This query could be as simple as "Have you understood" click 'yes' or 'no'. Or it could be a question that relates to what the teacher has taught just a few minutes ago. Most answers are classified into 'correct', 'wrong' or 'no answer'. The most worrisome would be a series of repeated 'no answer' indicators. This could mean that the student has either not comprehended anything, or has dozed off. It would call for the studio administrators to

alert the centre manager where the student has attended the session and has not responded to the queries.

All responses are kept in a database. Thus each hour of teaching would allow for each student to appear for at least three to five tests. Over a month, each student would have a tracking record of around 150 'tests' permitting the teacher to evaluate the student.

My personal preference is for IDL platform is anything that uses opensource technologies so that the licence fees of using databases and multimedia facilities does not become a crippling handicap in the attempt to offer reasonably priced courses. Typically, compared to proprietary IDL platforms that cost anywhere between US\$450,000 to US\$ 1 million, an open source platform with all (and even more) functionalities could be got for under US\$50,000. My other preference is for a VSAT based communication system because when you have more than 20 centres, each with 10 computers or so, communication through VSATs becomes significantly cheaper than through telephone lines and internet cables. Moreover, since there are no wires that can be cut, courses cannot be interrupted. All this could be provided by any VSAT service provider in any country. Of course, where there is no electricity supply, one will have to depend on generators, which too is a cost that is not unmanageable.

In India we have been promoting the use of mobile buses fitted with generator, 20 PCs and a consulting room which cumulatively could cost less than US\$50,000 per bus. Each bus caters to around 30 villages, and we have been trying to show people how the costs could be recovered in less than a year's time.

For practice sessions, we have been promoting **the use of corporate brands for certification**. Our approach is based on the realisation that when it comes to networking, no university degree or diploma is respected as much as a Cisco certification. The same is the situation when it comes to Java programming – no university certification is valued as much as a Sun certification. The same is true for courses in Database management (Oracle), programming within the Windows environment (MS) and so on. In India we have had some success in our talks with a large automobile manufacturer, a large producer of welding electrodes, and a large producer of electrical switches, for developing courses related to truck repairs, welding and household electrical wiring. The course is designed by these manufacturers, and modified by teachers to see that they can be best comprehended by students.

More importantly, the manufacturers have also agreed to work on designing prototype workshops where only those students who successfully pass the theory part of the course are allowed to try their hands at truck repair, welding or electrical wiring. Considering that a good course normally does not have a passing percentage of more than 25% of the students enrolled, the pressure of enrollment for the workshop can thus be kept under controlled. Currently, we believe we will require only one workshop for every 50 VSAT-linked training centres.

And the cost of both the workshops and the training centres can be met through a franchise scheme which would reduce the financial burden on the state.

The **corporate certification** could be an independent certification, or could be in partnership with a college, university or government. What makes corporate certification extremely attractive are the following:

The corporate would have a vested interest in ensuring that the skill certification programme it has embarked upon does not adversely affect the market brand value of the products it sells. Naturally, therefore, it would ensure that the courses are well taught, the teachers competent, the questions that are meant to evaluate the students actually discern the dumb from the sharp, and that the practical courses in the workshops actually turn out the kind of students that can either work with the corporate itself as employees, or can be used to develop the business further if the student concerned has entrepreneurial skills as well. The former ensures a sort of succession planning for the workforce; the latter creates a service network for the company and thus makes its products that much more appealing to consumers. This is because consumers, generally, prefer those products for which they can get service not far from where they live or work.

All the large corporates we are in discussion with have agreed that once in six months they would come up with advertisements stating that if a student wishes to create a career for himself (or herself) with them, they could pursue a course with XYZ, where XYZ is the name of the network which provides the IDL courses and later enables the successful students to go for practical training as well. The hunger for jobs drives students to such courses – that must be reasonably priced – and the corporate ensures that the best students get employed within the corporate; the entrepreneurial students who have successfully completed the course are given some

kind of dealership or agency; and the rest could find placement within the industry itself. What this does is to revive the concept of guild certification that was once in vogue all over Europe. That, effectively, makes the corporate body a market maker as well both for the course, as well as a market maker for job placements. The bigger the brand, the more marketable both the course and the employability option would be.

For certification we recommend a simple process that we got patented from the UK patented office (GB2387014) and which we are only too glad to allow into public domain provided the value systems of education for the masses are not lost sight of.

PITFALLS

This is unlikely to be a pancea for all ills. There are pitfalls, undoubtedly.

The biggest of them is the unwillingness on the part of the education establishment to let corporates take charge of education and of certification. Nobody likes to give up power, and this approach does shake up the established order. Do expect several objections, and do be prepared for a host of reasons being put forth on why education should remain the prerogative of educationists alone.

The second biggest pitfall would be the reluctance of a government to allow a VSAT linked system to operate for this type of education. However, since this type of educational content uses a network topography that is hub-and-spoke rather than mesh, there will be little reason to ban such networks on the grounds of security. In mesh topographies, anyone can talk to anyone, which could pose a risk to security agencies. It is not easy to eavesdrop on VSAT communication networks. But a hub-and-spoke network requires everyone to talk only with the central studio, so security concerns should not be there. I do not think that this could be a major obstacle.

The third area – and this is the one I am most concerned above – is the revenge of the marginalised teacher who is not good, and wants to ridicule this system. The spurned teacher can be extremely dangerous and vicious. Ways have to be introduced to co-opt them as mentors at the training centres and the workshops, with financial rewards to the ones who have shown the greatest enthusiasm, innovation and commitment. If this is not done, the entire scheme could fall apart.

Then there are problems that will keep appearing, and for which new solutions will have to be found, either in terms of technology, or the social and cultural landscape within which this system is to function. For instance, we are trying to develop courses which can allow for role-playing, and thus use this method for teaching people on how to develop marketing skills, improve body language and the manner of expression. This work is in its final stages, and once completed could mimic the role classrooms play in letting students learn from the mistakes and questions (and often even answers) of their peer group. It would allow for community building blocks to promote education in ways that nobody thought possible.

COSTS

Finally the issue of costs. These will have to be worked out, but on an average, the costs should not be more than US\$20 per student per course, while practicals could cost another US\$50-100. This is almost one-fifteenth the cost the government schools incur on salaries month on month on a per student basis. And given the right financial structure, we are convinced that the entire project could achieve a full-payback within two years. The profits that come during the years that follow could be used to subsidise the network by setting up more training centres in socially disadvantaged or remote locations.

The possibilities are immense. The work has just begun.

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