

HIGHER EDUCATION SECTOR IN INDIA:

OPPORTUNITIES & REFORMS

By

Tulika Khemani* and Jayaprakash Narayan**

March 2006

Foundation for Democratic Reforms / Lok Satta

401 / 408 Nirmal Towers, Dwarkapuri Colony, Punjagutta
Hyderabad – 500 082.

T: 040 23350778 / 23350790; F: 040 23350738

E: loksatta@satyam.net.in; W: www.loksatta.org

* Tulika Khemani has a BS in Mechanical Engineering and a concentration in Economics from Massachusetts Institute of Technology (MIT), Cambridge (Class of 2003). After completing her schooling in Hyderabad, she started her engineering coursework at a college affiliated to Osmania University, Hyderabad and transferred to MIT after ~2 years. She can be contacted at tulika@alum.mit.edu.

** Jayaprakash Narayan is the National Coordinator of Lok Satta and Coordinator of VoteIndia Movement.

INTRODUCTION

In today's global environment, an accessible and high quality higher education system is imperative for a nation's economic progress. A sound higher education system supports and enhances the process of economic and social development for a better future.¹ India has one of the largest higher education systems in the world with 311 universities and 15,600 colleges as of 2004 producing 2.5 million graduates each year.² However, outside a few islands of excellence the system is failing to produce wealth creators and creative, intellectual leaders who are much needed in all sectors of the society.

The development of knowledge based economies coupled with increased international mobility and the emergence of several multinational companies spanning several continents has placed huge demands on the higher education system in India. As the world shrinks and global trade increases, Indian companies need to adopt international standards. Increased competition calls for increased awareness and better skills, and a quality education is paramount in training the class of workers that will make India succeed. But is India coping with this demand for knowledge workers?

Unfortunately, the answer is no, both in terms of numbers as well as quality of the graduates. This inability to provide knowledge workers is prevalent across all sectors. India's higher education sector has failed to map the future demand for various skills and it has not kept pace with industry's growth. For instance, a Merrill Lynch report in February 2005 cites a study by McKinsey & Company, a global consultancy, which suggests that 75-80 percent of India's graduates are not employable in the IT-enabled services industry, which could lead to a qualified labour shortage. Due to this shortage in talented and skilled labour, attrition and salaries in India are rising. Another McKinsey

¹ The World Bank study "Globalization, Growth, and Poverty: Building an Inclusive World Economy", by David Dollar and Paul Collier, describes how 24 developing countries that integrated themselves more closely into the global economy experienced higher economic growth, a reduced incidence of poverty, a rise in the average wage, an increased share of trade in gross domestic product, and improved health outcomes. These countries simultaneously raised their rates of participation in higher education. Indeed, the countries that benefit most from integration with the world economy achieve the most marked increases in educational levels. Conversely, a good education system that provides opportunities for all is critical for success in this globalizing world.

² India Together: <http://www.indiatogether.org/2004/may/edu-ugc.htm>. Last accessed February 11, 2006.

finds that 81 percent of Indian managers expect talent scarcity to limit growth.³ Rising wages could negatively impact India's recently growing lure as an outsourcing destination. In addition, some economists in the IMF recently noted that the growth of the labour-intensive manufacturing sector will also face a 'substantial impediment' as factories will become unable to afford supervisors and managers whose pay scales are being driven up by the boom in the services sector.⁴ This will adversely affect the employment prospects of unskilled labour as well.

The shortage in competent knowledge workers is not due to a lack in the number and quality of students entering the system. India has a significantly large demographic of young people (~120 million people between the ages of 17 and 22 in 2001)⁵ who are hardworking, motivated and ambitious. Historically, Indians have had a high regard for higher education, which has always occupied a place of prominence. In ancient times, Nalanda, Taxila and Vikramsila universities were renowned seats of higher learning, attracting students from all over the country as well as foreign countries such as Korea, China, Burma, Ceylon, Tibet and Nepal. Indians have a civilizational ethos for learning and have a huge demand for success. Parents value quality education and invest exorbitant resources to guarantee a good education for their children. It is ironic that despite the demand for quality education from parents and students as well as the demand for talented and skilled workers in the booming industry, there are nearly 48 million registered unemployed in the country.⁶ Of these about 8.1 and 3.9 percent have graduate and post graduate degrees respectively.⁷ Clearly, the higher education system in India is the only one to blame for the sub-standard class of workers entering the job market.

³ "The Job Boom: Too many offers, too little talent". Published on February 27, 2006 in India Today. Pg. 34-40.

⁴ Kalpana Kochhar, Utsav Kumar, Raghuram Rajan, Arvind Subramanian, and Ioannis Tokatlidis. "India's Pattern of Development: What Happened, What Follows?" January 2006. IMF Working Paper WP/06/22.

⁵ Census of India 2001. <http://www.censusindia.net/>. Last accessed February 28, 2006.

⁶ "Transforming India into an Economic Power and a Developed Nation". Published by iWatch.

⁷ India Science Report (ISR). Released by the National Council of Applied Economic Research (NCAER) in 2005. http://www.icfdc.com/html/bizarticles/factsheets/icfdc_business_factsheet_20051215a.html. Last accessed March 02, 2006.

The number of high quality institutes is very low, accounting for less than 1 percent of all graduates, and thus students face extraordinary competition for gaining admission into these. A major portion of the higher education sector has spectacularly failed, giving rise to a plethora of adults who are unable to solve problems or think creatively. There are, of course, a handful of truly innovative, entrepreneurial and ambitious leaders but they are exceptions that make up a negligible fraction of the total. The median quality of graduates is appalling. Responding to the huge demand for higher education without further diluting the quality will be a challenge for India.

The current shape of the higher education sector is not only inhibiting upstream wealth creation but also adversely affecting the primary and secondary school sectors. Tertiary education is not just a discrete sub-section of the education sector but a critical element that buttresses a holistic system of education.⁸ Tertiary education is an integral contributor to the secondary and primary education systems because it feeds future educators back into the system. Currently, graduates from the innumerable mediocre institutes become school teachers and thus the younger generation is passing out of schools without the necessary skills and knowledge of subjects required in order to perform well in the next phase of their lives. Thus a vicious cycle has set in which is rotting the entire education sector.

CRISIS IN HIGHER EDUCATION

Higher Education is facing a major crisis in India and all the major building blocks of a sound education system are showing deep-rooted faults. In general, there is very little incentive or encouragement for original thinking in the tertiary education sector. This paper identifies some of the major gaps in the tertiary education system in India and proposes some reforms to transition from the current paralysed system to a better, more efficient and meaningful system that will fuel the growth of the knowledge economy in this country. The structure of university systems in India, the admissions and evaluation processes, and the academic experience provided in a university are all spokes of the same wheel. A holistic approach is needed as one attempts to improve the quality and

⁸ “Construction Knowledge Societies: New Challenges for Tertiary Education”. 2002. World Bank pp xi.

access of the tertiary education system. It will be difficult to simply improve any one process effectively and gain maximum benefit without simultaneously improving the other processes. However the good news is that, given the inter-dependent nature of the system, by identifying and reforming key aspects in the various sub-sectors, a broad, positive impact can be realized. Some straightforward, non-monetary reforms that aim to increase quality and competition in the sector can be easily designed to give the right incentives for innovative, research-oriented, high quality and self-propagating higher education.

INSTITUTIONAL ISSUES

Excessive Regulation

All universities need to follow the rules and regulations set forth by a number of different bodies such as the Universities Grants Commission (UGC), the individual State Governments, the All India Council for Technical Education (AICTE; for technical institutes), the Indian Council of Agricultural research (for agricultural universities) and also the rule of the courts. Overall, the rules and policies imposed on the sector are not only inducing a lack of competition, vision and originality in the sector but the perfunctory and excessive requirements laid down by all the different boards are also seriously hampering the functioning of the institute. These factors are the most important contributors to the rapid decline in the quality of higher education in India because they create entry barriers without enforcing the proper quality constraints. Instead of multiple regulatory bodies, the nation needs multiple educational institutions and an efficient, streamlined and hassle-free regulatory structure.

System of Affiliation

One ineffective form of regulation is that private universities are allowed to have degree programmes only if they are ‘affiliated’ with an existing university. Affiliation implies that the private college follows the university’s syllabi, installs the same requirements, and uses the same testing system; the university then grants the degrees. The system of affiliation in its current form leads to excessive control by a university on the individual

functioning of a college. It hampers the creation of innovative teaching and evaluation methods. Dr. Pratap Bhanu Mehta, President of the Centre for Policy Research says, “The requirement that all private colleges grant degrees through existing universities is, with rare exceptions, a real deterrent to innovation. And it corrupts the state system further because often universities pretty much sell these affiliations. If the intent of this affiliation was quality control, the intent has failed.”⁹ By imposing heavy regulations on affiliated colleges, potentially new and innovative educational initiatives are being shackled down to past trends and practices. These rules also inhibit the possibility that a private institute will update its curricula.

Although several private institutes are now in place, unless they are of ‘deemed university’ status, they still have to adhere to the curricula, fee and evaluation structure of an existing university to which they are affiliated. The examinations for all courses are designed, conducted and evaluated by the university. These affiliations pose an unnecessary burden on the university especially due to the proliferation of colleges affiliated to a single university; there are no limits on these. For example, universities in Andhra Pradesh need to carry the administrative burden of over 150 affiliated colleges each; Osmania University has 491 colleges, Andhra University, 382, Venkateswara University, 195, Kakatiya, 237, and Nagarjuna University, 260.¹⁰ There is misallocation of resources in ‘affiliated’ colleges as a large portion of them is spent to ensure the ‘affiliated’ status. They also spend very little effort on enhancing coursework due to lack of autonomy over curriculum. In order to break free from this vicious circle of incompetence and declining standards a private college needs to be accorded complete control and flexibility in designing its own coursework and evaluation systems either via getting rid of the system of affiliations or by at least relaxing the requirements to gain affiliation.

⁹ “Critiquing the Regulatory Regime” by Dr. Pratap Bhanu Mehta. Indian Express. Posted online July 15, 2005. http://www.indianexpress.com/full_story.php?content_id=74416. Last accessed February 20, 2006.

¹⁰ “AP to set up 3 new universities”. Published in the Hindu on December 30, 2005. <http://www.blonnet.com/2005/12/31/stories/2005123100721700.htm>

Competition in Higher Education

Current rules discourage competition within the sector and lay an inordinate amount of emphasis on equality in every aspect of the sector, such as a) there are regulations regarding the number of institutes that can exist in one locality and b) the fees that the students are charged are the same across all colleges. Section 12A(2)(d) of the UGC Act states: “the Commission... may... specify by regulations the matters in respect of which fees may be charged, and the scale of fees in accordance with which fees shall be charged in respect of those matters on and from such date as may be specified in the regulations in this behalf, by any college providing for such course of study from, or in relation to, any student in connection with his admission to, and prosecution of, such course of study”. Due to such regulations, competition is inhibited because college monopolies are safeguarded and also because colleges don't have adequate opportunities to differentiate themselves in the market. Excessive approvals inhibit competition by creating entry barriers for the establishment of new institutes as well as new programmes of study.

Liberalization of the Sector

Before the 1990s most sectors were in direct control of the government of India. In 1990/1991 India faced a serious economic crisis. Post liberalization, the access and quality of the deregulated sectors, such as banking, trade, telecommunications and civil aviation, improved dramatically. As soon as the reins were handed over to the market, it induced segmentation of the market and led it down a path of increased efficiency in each segment. For example, earlier one had to pay a hefty premium or a bribe to obtain a telephone connection, which could take several months despite the bribe. But since the deregulation of the sector, it is the consumers who have the maximum bargaining power and today, one can get a new telephone installed with no bribe and within 24 hours!

The current higher education system is in a state of disrepair and it too needs to undergo a process of liberalization to meet the demands of the nation. While, India has seen a proliferation in the number of private colleges, these colleges are shackled to the old institutional ways due to the inaction of the state to reform the system. The few centres of excellence are doing well not because of the regulations, but largely despite them. The

current system is not only failing to gain maximum benefit from private initiatives which have presented themselves as a boon to education reform but is also inhibiting these initiatives by imposing its own inefficient, obsolete, bureaucratic and stifling structures on them. There is a heightened sense of control which encourages mediocrity as it not only stunts innovation, but also creates a safety net for mediocre 'approved' institutes.

Benefits of Competition

There is an urgent need to implement broad competition policies to enhance tertiary education in India. “To create a sustained cadre of 'knowledge workers,' India needs to make its education system more demand driven to meet the emerging needs of the economy and to keep its highly qualified people in the country,” suggests Anuja Utz, co-author of the World Bank report, *India and the Knowledge Economy: Leveraging Strengths and Opportunities*. “This means raising the quality of all higher education institutions, not just a few world-class ones, such as the Indian Institutes of Technology.”¹¹ A free market will give the proper incentives to educational institutes to create their market niche and provide services that will meet the demands of all the stakeholders in the system, i.e. the students, the parents, the teachers as well as the industry and research sectors. Competition will begin a process of rivalry between institutes, each seeking to attract the brightest students and faculty, to build a credible reputation and to successfully steer students into the next step of their careers—academic or otherwise. Institutes will compete in a number of ways – some on fees charged, some on quality of faculty or curriculum, some on research abilities and some on placements post graduation. This will also give students a chance to pick institutes based on their resources and personal preferences. An excellent example of competition leading to constructive rivalry and innovation in the Indian higher education system is the case of IIM-Ahmedabad versus Indian School of Business (ISB). Post the formation and success of the one year post graduate management programme at ISB, in June 2005 IIM-A also announced a one year post graduate programme in management for executives called the

¹¹ Carl J. Dahlman, Anuja Utz: “India and the Knowledge Economy: Leveraging Strengths and Opportunities”. Published June 2005.
<http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/KFDLP/0,,contentMDK:20552872~menuPK:461238~pagePK:64156158~piPK:64152884~theSitePK:461198,00.html>.

PGPX. For this programme, IIM-A too is also calling for applicants from all nationalities, charging a high fee (Rs.8-10 lakhs for the one year programme compared to Rs. 1.76 lakhs per year for the two year management programme at IIM-A but competitively priced when compared to Rs.13 lakhs for the one year programme at ISB) and accepting the GMAT as an admission requirement.¹² The PGPX will not only create an additional revenue source for IIM-A, but will also address the demand for one year management programmes by experienced executives.

When competition is vigorous it ensures that no part of the market is left unexplored and this will guarantee higher education access to all segments of society. In the context of India, this means a multiplicity of institutes to address the unmet demand from students, parents, research houses and all industry sectors. David D. Dill of the University of North Carolina states that market and “market life” policy instruments are assuming increasing importance in major higher education reforms throughout the world and that “the overt rationale for these reforms is not only the traditional argument of economic efficiency—with its supposed corollary benefits of institutional adaptation and innovation—but [also] increase a resort to market competition as a means of achieving equity in the form of mass higher education.”¹³ The consequences of competition are that prices will typically arrive at an efficient level of costs, a diversity of programme offerings will come on to the market that matches the heterogeneity of consumer needs and tastes, and the rate of innovation will be high. This kind of a framework will also automatically weed out or transform those institutes that do not meet the minimum set of standards set by the market.

Remove Entry Barriers

The government needs to take active measure in order to increase the number and quality of institutes in the higher education sector. For instance, all regulatory and bureaucratic

¹² Indian Institute of Management – Ahmedabad Website: <http://www.iimahd.ernet.in/index.php>. PGPX Information: <http://www.iimahd.ernet.in/pgpx/pgpxone.htm>. Last accessed February 28, 2005. Indian School of Business: <http://isb.edu/>. PGP Fees Information: http://isb.edu/pgp/visit/admissions_fees_structure.htm. Last accessed February 28, 2005.

¹³ David D. Dill: “Higher education markets and public policy”. Higher Education Policy, September/December 1997, Volume 10, Number 3/4, Pages 167-185.

hurdles that one faces in order to set up a new institute should be removed. A huge barrier that one faces in trying to establish a university is the regulation that a university can only be set up via a Central, Provincial or State Act.¹⁴ This regulation must be replaced with another mechanism that tests the mission, motives and commitment of the proposed venture: one such option is discussed later in this paper. In January 2004, SYLVAN, a company which operates a network of universities in Europe, Mexico, and South America in addition to online programmes in the United States, closed its India campus citing lack of co-operation from the UGC. Sylvan had expected that its institute would be granted local legitimacy by the state government of Andhra Pradesh. But the state government, which once seemed inclined to enact laws giving itself the power to regulate private higher education, had backed away from that approach.¹⁵ India needs to create a flexible regulatory and accreditation framework that encourages growth in the tertiary education sector, attracts a plethora of providers, and works with individual providers to establish centres. The regulatory framework should not be such that it drives institutes away altogether.

In order to increase competition in the sector, there should be no limitations imposed on the location of a new institute. In the current scenario, university grants can be restricted on the basis of its location in relation to a pre-existing university.¹⁶ The Supreme Court also made the following judgement in February 2005 in the State of Andhra Pradesh v/s J.B. Education Society case: “The State authorities alone can decide about the educational facilities and needs of the locality. If there are more colleges in a particular area, the State would not be justified in granting permission to one more college in that

¹⁴ Section 2(f) of the UGC Act: “University” means a University established or incorporated by or under a Central Act, a Provincial Act or a State Act, and includes any such institution as may, in consultation with the University concerned, be recognized by the Commission in accordance with the regulations made in this behalf under this Act.

¹⁵ http://prayatna.typepad.com/education/foreign_universities_in_india/index.html. Last accessed February 18, 2006.

¹⁶ Section 3.1.2(a) of the UGC ACT: No University to which these rules apply shall be declared to be fit to receive grants from the Central Government the University Grants Commission or any other Organisation receiving any funds from the Central Government unless the Commission is satisfied that... [There is an] inability of the existing University or Universities of the state concerned to provide for such facilities either in its or their existing faculties or schools or by the establishment of postgraduate centres or campuses.

locality.”¹⁷ The reasoning behind such rulings and regulations is flawed because it creates monopolies and inhibits competition excellence by restricting the establishment of universities in the same locality as an existing university. Take for example, the greater Boston area, which is home to approximately 100 colleges and universities. Here competition has given rise to some of the world’s top institutes such as Harvard, MIT and Tufts. These universities attract some of the best faculty and students in the world despite being close in location to each other. The quality of their coursework is dynamic and progressive and the presence of other top-notch colleges in the locality has allowed easy and successful collaborations between some of the best minds of the world. In India too, there is a need to remove restrictions on setting up colleges within the vicinity of another college. Such a restriction gives an undue first-mover advantage and creates a safety net for the existing college, thus removing incentive to excel.

Outcome-Based Regulations

Like in any other sector, there are three main stages that lead to the outcome of an educational institution: the inputs, the processes and the outputs. In the higher education sector, the *inputs* are the students that enter the institute, admission procedures, fees charged by the institute, infrastructure, number of students admitted, number of faculty members, salaries, etc. The *processes* are the pedagogical methods employed by the institute, the curriculum, the faculty, and the teaching and research model (E.g. visiting faculty, evaluations based on class discussions and participation, exchange programmes, etc.). The *output* is the total number of graduates and the *outcome* is the quality of these graduates, their analytical, reasoning and problem-solving skills, their communication and leadership skills and the readiness with which they are hired into the industry and for research positions. The desired outcome is to create individuals who will fuel knowledge and wealth creation in India.

In the higher education arena, especially professional education, there are many regulations that seek to control the inputs into an institute and the processes it implements

¹⁷ *Government of A.P. & Anr. vs. J. B. Educational Society & Anr.*, SC 2005. (Available at <http://judis.nic.in/supremecourt/qrydisp.asp?tfnm=26814>. Last accessed March 4, 2006.)

but very few that measure or evaluate the overall outcome. As a consequence of setting ‘minimum’ standards for these inputs and processes, there are no incentives for the administrators to improve quality above and beyond the least common denominator, which then ends up being the prevailing level of quality in the sector. To raise the standards of institutes, outcome-based regulations and evaluations need to be adopted, whereas restrictions on inputs and processes must be kept to the bare minimum.

INPUTS AND ADMISSION PROCESSES

Single Point Entry System

In most states, the AICTE and/or the state government defines the admission process for enrolment into professional colleges. The state government typically fills 75-85 percent of all professional seats in private colleges (minority colleges are an exception where it is typically 30 percent). Although, the situation is somewhat fluid since the Supreme Court ruled out quotas in private colleges in an August 2005 judgement.¹⁸ In some states, such as West Bengal, Andhra Pradesh, Karnataka, admissions into professional colleges for engineering, medicine, pharmacy etc are mostly based on the students’ rank in a single flawed entrance test conducted by the state. Students are ranked based on their performance on the test and they then pick their choice of school and programme in order of their rank. Intermediate marks are not always taken into consideration. For example, ranks in Andhra Pradesh do not take intermediate results into account; ranks allotted for admissions into Karnataka engineering colleges give equal weightage to both intermediate marks and the entrance test; but admissions for Karnataka Medical and Dental colleges merely use intermediate marks as a qualifier. Students are placed into colleges affiliated with the entrance exam by an outside agency. The outside agency is typically termed a ‘counsellor’, which is a misnomer because there is no counselling involved whatsoever: it is simply a seat allotment service.

¹⁸ A seven-judge Bench of the Supreme Court ruled out quotas in private professional educational institutions. "Neither can the policy of reservation be enforced by the state nor can any quota or percentage of admissions be carved out to be appropriated by the state in a minority or non-minority unaided educational institution," the Bench said. Source: "No quota in private colleges: SC". Published by Times of India News Network on August 13, 2005. <http://timesofindia.indiatimes.com/articleshow/1199758.cms>.

This system is grossly flawed because the entire academic career of a student is more or less decided within a matter of hours. Given the nature of the test, the rank achieved by students can be very random. For instance, in Andhra Pradesh, approximately two lakhs students take the entrance test for engineering, EAMCET; a difference in just one point on the test (which is on a total of 150) can result in a difference of over 1000 ranks which then tremendously influences the choice in seats. Thus, the argument of using entrance tests as the sole criteria for admissions as a signal for non-arbitrariness also falls apart. When a third-agent admits students into a college, the college has no say in defining its own student body and thus its culture, except for those students admitted via the 15-25 percent management quota. Due to the unreasonable fee structure, even the seats in the management quota are pretty much assigned to the highest bidders for the seats. It is a well known and recognized fact that despite rules dictating maximum fees that a college can charge for a management quote seat, in reality, most colleges charge hefty fees that for a majority of these seats and this additional revenue is typically unaccounted for. In addition, the colleges need to conform to various reservation policies. This kind of single point entry system is infamous because it (a) precludes some truly bright candidates from revered institutes, (b) gives no sense of the candidate's commitment to the programme of study, and (c) typically pays little or no weight to past academic background. Thus it is not surprising that faculty members often complain about a significant portion of their students having low attendance and showing little interest in the coursework. Meanwhile, there is an unnecessary burden on the students as they take several exams of a similar nature in order to keep their admission prospects open in a variety of states or bodies controlling institutes. For a majority of non-professional centres, the situation is reversed: the colleges exercise complete control but there is no transparency in the admissions process.

Autonomy in Admission Decisions

Some urgent repairs to the admissions system can be easily brought about. Universities and affiliated colleges should be allowed to make their own admission decisions. The process of admission should not be merely based on a test score. While, a test is effective in calibrating the student against the majority, that student's entire undergraduate career

must not depend on that one score. It should be used as one of the many criteria for admissions, not the sole criteria. Admission committees should be allowed to use a wide range of criteria to admit students in a holistic fashion. Each institute must devise its own unique set of criteria. Some examples of these criteria are high school record, achievements—both academic and extra-curricular, interviews, letter of intent, essays, group discussions, recommendations, leadership and competitive abilities, compassion, breadth of interests etc. The government should not impose any weightage requirements on entrance tests as compared to interviews, essays or any other admission criteria.

As is emphasized throughout this paper, a student's career prospects in India's rapidly growing knowledge economy are being increasingly determined by her access to a quality higher education. In order to ensure harmonious social progress in a country with India's diversity, it is imperative that students from the Scheduled Castes, Scheduled Tribes, backward, minority and women communities are encouraged to pursue higher education and are provided with adequate opportunities. Therefore, one of the main objectives of admission reforms should be to ensure that students from these disadvantaged communities continue to gain admission into institutes of higher learning. Towards meeting this objective, any proposed reform measures, including the ones discussed in this paper, should continue to incorporate the existing reservation systems and maybe even improve upon them by introducing preferential selection mechanisms.

Regulation of Fees and Class Size

Setting maximums on the amount of fees that a university can charge is having severe adverse effects on the higher education sector. Because admission and tuition fees are in most cases the sole source of revenue for the institutes, the repercussions of setting maximums on fees trickles down to every aspect of the individual institute and the university system in general. The biggest impact of this has been to faculty salaries, which, despite being the largest spending item for a university, is still very low in absolute numbers. In order to attract quality faculty, institutes must pay them salaries comparable to what they might attract in the industry. Today, a fresh engineering graduate can get paid twice as much as an assistant professor who has spent a minimum

of six extra years and a hefty Rs.3-4 lakhs (\$6,896 to \$9,195) more to earn his master's degree and PhD.¹⁹ The condition is dismal in leading institutes as well. The senior-most faculty at IIT gets a gross monthly salary of a modest \$674, not very different from what a good student would take home immediately after graduation. Among the perks is a ceiling of \$4,100 in three years to attend seminars. To supplement their income, they are allowed to work for consultancy projects 52 days a year. Of the revenue generated by those projects, 35 percent is handed over to the IITs. Even in management education, while on an average the students of IIM-Ahmedabad land up jobs with yearly pay package of Rs.8.20 lakhs, their teachers still languish on a salary of about Rs.2.50 lakhs.²⁰ Due to an institute's inability to pay competitive salaries and the high demand for quality professionals in the industry, the education system in India has suffered tremendously.

There is a huge shortage of committed and quality faculty members in the country. Various experts estimate that India has only 10 to 30 percent of the qualified instructors it needs in engineering; even the IITs are facing 20-35 percent faculty shortage.²¹ This widespread shortage in faculty has led to the unhealthy practice in some colleges and universities of offering faculty positions to degree holders from the same institute that they graduated from. Colleges are also hiring recent undergraduates with little industry or academia experience due to this shortage. These practices impede the growth of an institution. Colleges should not be allowed to recruit alumni as teaching faculty unless they have had at least some exposure to other centres of higher learning.

Deregulation of Fees

Deregulation of fees will go a long way in increasing competition and upgrading quality. As a consequence of low fees, most colleges are too cash-strapped to invest in education, particularly in sophisticated laboratory equipment. Increased funds from increased cost-recovery via fees will lead to higher salaries for faculty and more investment in infrastructure, curriculum and placement processes in order to attract bright students. It

¹⁹ <http://www.csmonitor.com/2005/0713/p07s01-wosc.html>. Last accessed February 11, 2006.

²⁰ Wired News: "India Tech: What's the Matter U?"
<http://www.wired.com/news/business/0,1367,52942,00.html>. Last accessed February 21, 2006.

²¹ Wired News: "India Tech: What's the Matter U?"
<http://www.wired.com/news/business/0,1367,52942,00.html>. Last accessed February 21, 2006.

is ironic that Indian students are allowed to spend thousands of dollars to get an education outside the country and yet a university of similar calibre is not allowed to charge even a fraction of this price. More than 17,000 students currently go to the United Kingdom to study and according to a study on global student mobility, Vision 2020, this number is likely to escalate to 26,000 in 2010. On an average, studying in the U.K. implies annual tuition and living costs of about Rs.7-9 lakhs and Rs.6-7 lakhs respectively.²² According to the data provided by the Institute of International Education (IIE), India has moved to the top position for being the source of international students to the United States. The report for the academic year 2004/05 states that the number of Indians studying in the U.S. is 80,466 (this is more than double the number of students in 1993/1994). India's students now represent 14 percent of the total number of international students in the United States and thus account for a significant portion of the \$12bn revenues that the United States receives from foreign students.²³ Why is India losing some of its brightest and most affluent students to other countries when it itself is in such dire need of them? If economically advantaged students are allowed to spend exorbitant amounts on education abroad without restrictions, then institutes within India should also be allowed to charge these students a market rate.

However, as a consequence, fees will rise. Therefore, the interests of minority and economically backward groups must be protected. A scholarship and loan fund should be set up and merit candidates who cannot afford their education should have easy access to the fund. With the help of government support and soft loans, it can be ensured that absolutely no student is denied access to higher education on the grounds of economic background. The current system of fees regulations in effect subsidizes the cost of higher education to all students regardless of their background. The subsidies should only be offered to those candidates that most need it; it should not be a one size fits all solution.

²² Hindu Article: "Great options in UK for Indian Students".
<http://www.hindu.com/edu/2006/02/20/stories/2006022000150300.htm>. Last accessed February 20, 2006.

²³ "Background on International Education Exchange with India." <http://www.fulbright-india.org/eas/US.doc>; Last accessed February 21, 2006.

Institute of International Education: <http://opendoors.iienetwork.org/?p=69691>. Last accessed February 21, 2006.

An increase in competition coupled with access to resources could address the shortage in faculty. In a competitive market, institutes will come up with the necessary incentives in order to develop and attract good faculty. A commendable initiative in this regard has been one by ICFAI University which not only attracts good faculty by paying higher salaries (20 percent more than IIMs) but has also taken steps to supply more trained management teachers in the sector. ICFAI has introduced a three year Management Teacher Programme (MTP) which is designed to develop management teacher via training in research methodology, case methodology, innovative pedagogic tools, soft skills and institutional development. The students also spend a year abroad to “get exposure to the teaching environment in an international context.” ICFAI gives financial aid of Rs.11-17 lakhs per student and has an annual budget of ~ Rs.2.5 crores for this programme. Graduates from the programme in turn have a minimum five year commitment to work for ICFAI and its constituents.²⁴ Once universities have access to adequate resources they can come up with multiple programmes that will address the overarching issues in the sector like faculty shortage, low pay scales, declining quality, etc. as described above. The government needs to ensure that it does not impede this innovative process and provides full support in every possible way.

Another manifestation of control that is exerted is the determination in the number of seats in a programme. A programme should be allowed to decide for itself as to what is the ideal number of seats it must offer. Instead of setting rigid maximums across the board and for all universities, on the intake of students in a course, there should be a testing mechanism after the completion of the programme that determines the quality of graduates. Any restrictions on number of seats should be based on the performance of the students from this test. Hence, an outcome-based control is most beneficial.

The current system is extremely rigid and binding because once a student picks a course of study in a college it is not possible for her to switch colleges or programmes without

²⁴ The ICFAI Institute for Management Teachers, “The Management Teacher Programme”. <http://www.icfai.org/iimt/mtp.asp>. Last accessed February 28, 2006.

Also based on an interview with Dr. Panduranga Rao, Vice Chancellor of ICFAI University, on January 31, 2006.

forfeiting her entire past college career. Once institutes are granted autonomy over admissions and class sizes, it will be easier for students to transfer between colleges and programmes. Such autonomy will allow institutes to evaluate and admit ‘transfer’ candidates on a case-by-case basis. It will make the system more flexible by facilitating mobility of students and allowing students to change their career, college or location in the event that their preferences change over the course of their higher education career. Consequently, the stress experienced by young students in choosing a career path right after secondary school will also be alleviated.

ACADEMIC PROCESSES

The second stage of education, i.e. processes, is also excessively regulated which hampers the quality of education, the ability of an institute to quickly respond to student and market demands and the overall efficiency of the system. It constricts the use of new programmes of study, innovative teaching models, and it installs a rigid adherence to outdated curriculum. These regulations not only inhibit intellectual growth and personality development of an individual but also make the placements of graduates from an average college tremendously difficult. The sector thus also fails to address the demands placed on it by the industry.

Curriculum

Obsolete and rigid curriculum

A major thorn in the side of the higher education stakeholders is obsolete syllabi which is quickly rotting the system. It has been noted that a significant portion of the syllabus is not only outdated but also irrelevant.²⁵ Graduates enter the job market with little

²⁵ Dr. A.K. Shiva Kumar, a Delhi-based adviser to UNESCO and visiting professor of economics at Harvard University says: “Islands of academic excellence... apart, it would be fair to say that college curriculums in India are outmoded and in many ways irrelevant. I find it very difficult to understand why undergraduate students studying economics as part of the journalism course of Delhi University should learn the distinction between Marshallian and Walrasian demand curves or why they should have to master the art of drawing complex indifference curves to tease out income and substitution effects. Moreover I have interviewed several economics postgraduates with Master’s degrees from Indian universities who are able to solve equations and rattle off formulae. But most of them were ignorant about adult illiteracy, infant mortality and net birth rates. Neither were they aware of where they can find such data. I blame college and university teachers for perpetuating a horrible examination and curriculum revision system. Their

knowledge on up to date practices in the marketplace and on how to update their skill set on an ongoing basis.²⁶ Major corporations such as Tata Consultancy, Wipro, Infosys, Hindustan Lever, Reliance, ITC etc. run virtual in-house universities to train college graduates who should ideally require only a minimal induction or familiarisation training before becoming productive. These corporate powerhouses hire some of the top graduates from the best colleges in the country and yet they require additional training: one can only imagine what the average quality of Indian graduates must be. Merittrac, a firm that helps corporations screen job candidates, has reported that merely 36 percent of engineering graduates qualify for a job-interview and only 10-12 percent were found fit for hiring.²⁷

In this day and age of rapid change, frequent technology upgrades, and cutthroat competition, it is important for a company to stay up-to-date with the latest technology and incorporate industry best practices to stay afloat. Consequently, in order to create graduates who can be readily absorbed by the industry, it is important for an educational institute to keep up with the latest thoughts and practices and respond to the market trends by constantly updating its coursework. The current regulatory framework and accreditation system require institutes to get prior approval before making any dynamic changes in the curriculum or devising new courses to suit the needs of the students and the market. If a single body decides what the coursework for each and every degree needs to be and aims to install that curriculum across all institutes in India, all originality, creativity and impetus for progressive, dynamic and high quality education will die. Local needs will also not be addressed. This monitoring structure also creates a colossal and unnecessary burden on the regulatory body. Institutes must be granted greater autonomy over their curriculum.

The undergraduate training is inadequate because it does not teach its students necessary skills such as problem solving and critical reasoning. A major review of all curricula is

indifference to these vitally important academic matters is disgraceful.”

<http://www.indiatogether.org/2004/feb/edu-syllabus.htm>. Last accessed February 23, 2006.

²⁶ Based on interviews with placement officers at various professional and non-professional colleges.

²⁷ “The Job Boom: Too many offers, too little talent”. Published on February 27, 2006 in India Today. pg. 34-40.

required and institutes must be granted more flexibility in designing their own syllabi and course structure. One useful resource in the curriculum redesign process could be MIT's Open Course Ware, which is a large-scale, free, web-based publication of educational materials from the MIT faculty's courses. As of December 2005 it had 1,250 published courses which could serve as, at least, a starting point for the curriculum design process.²⁸ Indian institutions could tap into the numerous global sources of knowledge to minimize the cost of redesign: there is no reason to reinvent the wheel. However, the curriculum will also need to address the unique needs of the national and local society and industry. For this, it must be ensured that all the key stakeholders are involved in the curriculum design process for maximum benefit to society. Some large corporations have already taken the initiative to participate in the curriculum redesign process. In 2005, ICICI Bank worked closely with 60 deans and professors to help develop course content and provide visiting faculty. Bharti Tele-Ventures, a telecom giant, has set up a telecommunications training school at IIT-Delhi. Infosys has ties with Vishveshwaraya Technical University.²⁹ Industry representatives must also be included in the curriculum design process and it should continue to encourage collaborations between industry and institutes via tax incentives.

General Education

Students must not only be taught current practices but also how to keep their knowledge up to date. Curricula should be designed so that students learn how to learn instead of what to learn and how to think instead of what to think. This can be done via an incorporation of and active participation in a general education system. Every society needs a heterogeneous pool of both specialists and generalists in order to fulfil its unique requirements. In India, like in most developing countries, there is an over-emphasis on specialization whereas a holistic open education (or general education) is grossly underestimated. While scientists, vocationists, medical doctors and engineers are much needed for the functioning of a society, general education graduates also have a clear and practical impact on society. A World Bank report, Higher Education in Developing

²⁸ MIT OpenCourseWare Homepage: <http://ocw.mit.edu/index.html>. Last accessed March 4, 2006.

²⁹ "The Job Boom: Too many offers, too little talent". Published on February 27, 2006 in India Today. pg. 34-40.

Countries states: “General education can promote responsible citizenship, ethical behaviour, educational ambition, professional development in a broad range of fields, and even global integration... It also promotes civil society through its contribution to broad-mindedness, critical thinking and communication skills, all of which are essential elements of an effective participatory democracy.”³⁰ In order to produce leaders, trained workers not only for industry, but also for government, academia and politics, liberal education coursework must be given high priority.

The tertiary education system must offer programmes for its students that inculcate a broad perspective of the world. This can be achieved via basic training in three major fields: 1) Science, 2) Humanities and social sciences and 3) Communications. If some of the major institutes of the world, such as Harvard, MIT, and National University of Singapore, have recognized and implemented this over the last several decades then why is India lagging behind and not taking a more serious initiative? In 1999, National University of Singapore (NUS) launched a new curriculum for a select group of students whereby the students are exposed to various schools of thought. The curriculum is designed to synthesize and integrate knowledge from diverse disciplines, and help students understand the process of human creativity. It includes subjects like Writing, History, Science and Mathematics, Social Sciences and Humanities. Another example lies in Bangladesh where the Bangladesh Rural Advancement Committee (BRAC) has established a university that offers a liberal education and that aims to reflect the needs and aspirations of Bangladeshi society by producing graduates who will work to alleviate poverty and to overcome the country's severe problems in the areas of health care, education, and employment. Indian higher education sector needs to take the cue from NUS and BRAC to set up similar initiatives on a much larger scale so that they will fulfil the needs of the Indian society. At the same time, concerted efforts must be made to raise awareness among students about the merits of liberal education. One such method is by enlisting the support of local employers for these programmes which is likely to have a strong effect on parents and students alike. Enrolment of members outside the elite

³⁰ “Higher Education In Developing Countries: Peril and Promise.” Published for the Task Force on Higher Education and Society by the World Bank. February 2000.

groups of the country must also be ensured. This can be guaranteed via scholarship and low-interest loan programmes. Pakistan's private Aga Khan University (AKU) uses some of its endowment to fund scholarships to extend its fledgling liberal arts and sciences course beyond wealthy groups.³¹

Communication Skills

During the design process for a new curriculum, adequate importance should be given to the development of written and spoken communication skills, team work abilities and leadership qualities. A few premium Indian institutes have installed communication programmes to enhance these skill sets in their student body but a vast majority of colleges are grossly lacking in inculcating these most relevant skills. Poor communication skills are also hurting the employment prospects of students as they are unable to assert their opinions, and unable to interview or work in teams effectively. A McKinsey and Co. study argues that only about one quarter of Indian graduates are suitable for employment by multinational companies and their partners; one of the primary reasons being weak communication skills, especially among graduates of non-elite schools.³² New curricula need to be urgently designed; one that includes requirements such as writing papers, class discussions, in-class presentations, independent and team-based research projects etc. that test a person's ability to form and argue opinions, encourage her to take on responsibility and push her to not only work in teams but also lead them. Moreover, universities should take other non-curricular initiatives such as communications workshops, debate and elocution contests, case and interviewing workshops, etc. The options are numerous: simply the thrust is missing.

³¹ David E. Bloom and Henry Rosovsky: "Why Developing Countries Should Not Neglect Liberal Education". Liberal Education Winter 2003. <http://www.aacu.org/liberaleducation/le-wi03/le-wi03feature2.cfm>. Last accessed February 23, 2006.

Aga Khan University (1994). The Future of the Aga Khan University: Evolution of a Vision. Report of the Chancellor's Commission. www.akunet.org/aku.

³² "India's Looming IT Labor Shortage" Published on December 16, 2005 by Business Week. http://www.businessweek.com/technology/content/dec2005/tc20051216_530300.htm?campaign_id=rss_tech. Last accessed February 25, 2006.

System of Electives

In India, even within the realm of specialized training and instruction there is excessive emphasis on the specialization and little on a broad understanding of at least a few general important topics. Dr. Dakshinamurthy, founder of Globarena with a Bachelor's degree from National Institute of Technology (formerly REC Tiruchirapalli) and a Masters and Ph.D. from Carnegie Mellon University (CMU), has visited around 150 engineering colleges in Andhra Pradesh. In his research he found that an average engineering student in India takes about 20 percent more courses than one in the U.S. He also found that in the U.S., 15-40 percent of the courses that an engineering student takes are non-technical whereas in India this number is merely 5 percent.³³ Students must definitely specialize in one particular area especially to prepare for higher studies and to promote employment generation. However, the current system misconstrues specialization as the ability of the student to memorize myriad facts and figures in one too many sub-fields as opposed to the ability of the student to understand, critically reason, form one's own opinions and solve problems in her field of choice.³⁴ This issue can be easily addressed by installing a system of electives.

Students are the most important stakeholders of the tertiary education sector and they should have the right to organize and direct their academic careers autonomously. If the higher education sector is enhanced by widely accepting and installing a system of inter-disciplinary studies and an elective system while making the curriculum flexible, then students will be able to steer their academic careers in the direction that they desire. Depending on the structure of requirements of an institute, electives can allow students to choose their sub-field of specialization as well as to sample courses in many different sub-fields or even different disciplines. This system was first introduced in Harvard University in 1885 by its President, Charles Eliot, the eminent educationist. Freedom of choice, opportunity to win distinction and inculcating a sense of discipline were the three

³³ Based on an interview with Dr. Dakshinamurthy. He states in a report: "An engineering student from JNTU takes 100 percent more science and engineering courses and 500 percent less non-science courses compared to a similar student from CMU."

³⁴ See footnote 25

things that Eliot hoped to give the students.³⁵ The system of electives was found to be so effective that by now all the great universities in the west have adopted it. India also needs to create a system whereby a student is guaranteed choice, given an opportunity to excel and is taught to take responsibility for her career and life. This system has other benefits: A) It will automatically regulate syllabi and course content to an extent because students will not take courses that are not valuable nor relevant in the contemporary world. B) It will also buttress a stable multi-disciplinary approach based curriculum which is the needed to fulfil many functional aspects of a society.

Initially, it will be difficult for most colleges to immediately offer a wide array of electives in different disciplines given the limited scope of existing programmes and faculty. For example, it will be difficult for engineering colleges to offer electives in (say) psychology and music. To overcome this hurdle, colleges should be actively encouraged to partner with other colleges offering a different range of programmes. Students from both colleges should be allowed to cross-register for courses in these 'partner' institutes so that they may have access to diverse range of study areas.

Research Agenda in Undergraduate Education

One of the major flaws in the Indian tertiary education system is the disappearance of a research agenda in universities and the separation between graduate and undergraduate education. All the top universities in the world have undergraduate and graduate education under the same umbrella such that all students can benefit from the latest research. The situation is that of utter disgrace even at the top institutes of India. A McKinsey study found that the typical IIT was granted 3-6 patents in 1996-97 against 64 for Stanford Engineering and 102 for MIT Engineering. Similarly, the number of citations per faculty between 1993 and 1998 was 2-3 for the typical IIT, while it was 52 in the case of Stanford Engineering and 45 for MIT Engineering.³⁶ This has serious consequences as Indian scholars and scientists who rarely pursue research are unable to remain updated with developments in their own fields. The division between research

³⁵ Charles William Eliot, "The Elective System", 1885.
http://www.higher-ed.org/resources/Charles_Eliot.htm. Last accessed February 23, 2006.

³⁶ Wired Magazine: <http://www.wired.com/>. Last accessed February 10, 2006

and teaching obstructs the automatic contemporization of syllabi. Increased integration between research and education may also alleviate the problem of faculty shortage if graduate students are allowed to teach basic courses (or at least come portions of these courses) under the supervision of professors, as is done in the West.

Outside of the research funding option, there are several methods in which the research can be encouraged in Indian institutes. Incentives can be created such that the teaching faculty is encouraged to engage in research activities and to publish. For example, some universities in China have made the necessary reforms and created incentive structures in order to promote academic research. Since 2003 professors at Beijing University are no longer promoted on the basis of seniority but with an eye to their research and publication records. If a new lecturer cannot make it to Associate Professor within six years, he or she is asked to leave. "This was the only way to change the orientation of our faculty towards academic research," explains Dr. Zhang, the Executive Dean.³⁷ ICFAI University in India provides cash incentives by giving Rs.50,000 to the faculty for each published paper.³⁸ Linking pays, promotions and other advancement options of the faculty to their research, cited works, general academic excellence and involvement in conferences and seminars instead of number of years in service will prove fruitful to research and thus increase the overall quality of education in the long run. In order to ensure that the research is benefiting undergraduate education, institutes should make it mandatory for their faculty to design and teach undergraduate courses as is done by most universities in the West. Further, an evaluation system can be set up whereby students review the performance of their teachers at the end of each course. Faculty promotions and tenure can also be tied to these evaluations.

Institutes should be encouraged to actively collaborate with other centres of higher learning—both local and foreign, research institutions, as well as industry to kick-start or even augment existing research programmes. A UNESCO report on development of higher education strongly advocates the need for both research and education for the

³⁷ "Excellence in education: the Chinese way". Hindu Opinion Article, Published February 17, 2006.

³⁸ Based on an interview with Dr. Panduranga Rao, Vice Chancellor of ICFAI University, on January 31, 2006.

establishment of knowledge and seconds the need for collaboration. It states: “States, including their governments, parliaments and other decision-makers, should... develop innovative schemes of collaboration between institutions of higher education and different sectors of society to ensure that higher education and research programmes effectively contribute to local, regional and national development.”³⁹ In India, some private universities have recognized this potential and have successful collaborations with institutions abroad; examples of these universities are Manipal Academy of Higher Education, Delhi-based Amity Universe and Bangalore-based Jain Group of Institutions. The government should install a framework such that research collaborations with other local and foreign universities, industry and research organisations are not only viable but also attractive opportunities. The government can offer tax benefits for industry collaborations, impose minimal or no restrictions on foreign collaborations, encourage privately and publicly funded conferences, lectures and seminars with speakers from around the world and other networking opportunities for Indian professors, create incentives for institutes and industry research houses to offer summer research positions to undergraduate as well as graduate students. An important requirement while drafting these regulations is that politicians should neither be allowed to meddle in the matters of the research institution nor be able to steer the research in a particular direction. One unfortunate incident that occurred in 2003 was when MIT Media Lab Asia pulled out of India citing clashes over its focus and organization with the Indian minister of information.⁴⁰ For the successful implementation of any research initiative and collaborative venture, it must be ensured that such clashes do not arise. Research, whether in collaboration or not, should not be driven by a politician’s motives.

Another way to promote a research agenda is to require all sole undergraduate programme colleges to merge with at least one research house. Here, India can use the Russian model, in which prestigious academies of science, research institutes and classical universities where teaching is often considered more important than research,

³⁹ “Framework and Policy Action for Change and Development in Higher Education.” UNESCO Report. http://www.unesco.org/education/educprog/wche/declaration_eng.htm. Last accessed February 22, 2006.

⁴⁰ “MIT Media Lab turns to Taiwan”. Published by The Boston Globe on June 27, 2005. http://www.boston.com/business/technology/articles/2005/06/27/exporting_technology/. Last accessed February 22, 2006.

are being merged into "centres of innovation" in order to end the divide between research and education.⁴¹ The government could initially test this merger by imposing it on a handful of selected institutes and if the programme succeeds adopt it for a broader set of colleges. Thus, it is possible to bridge the gap between education and research by creating the right incentives and without excessive monetary commitment.

Faculty Recruitment and Promotions

The structure of faculty recruitment and promotion mechanisms is in a state of disrepair as its functioning is excessively regulated. Institutes are forced to follow the UGC and/or AICTE guidelines on the minimum qualifications for appointment and career advancement of all faculty members. Sometimes teaching appointments are based on caste, political patronage and other corrupt considerations where as academic excellence and accomplishment is given no regard. Here again, minimum standards such as academic record of 55 percent, are becoming the norm in the sector. Promotions are based on the number of years in service rather than performance. The consequence of this is that there is no incentive for the teachers to perform well.

The process of appointing Vice Chancellors at universities is in no better shape. In state universities the Governor on the recommendation of (and thus effectively by) the Chief Minister appoints the Vice Chancellors. Political interference has therefore become an inherent character of the Indian higher education system and often these Vice Chancellors play second fiddle to the motives of the politicians rather than work towards a public good. D. K. Basa, an author for *Current Science*, blames the poor quality of academic leadership provided by Vice Chancellors in universities and Directors in national research institutions, on the faulty system of appointment and selection. He points out that the high priests of academic and scientific organizations in modern India succumb to political pressure and instead of confronting the political bosses to defend quality and truth, behave like chameleons. This vitiates the academic environment in the university

⁴¹ Science education on a slippery path: <http://www.indiatogether.org/2004/oct/edu-science.htm>. Last accessed February 22, 2006.

campuses, with faculty and students pulling strings via the involvement of political bosses.⁴²

EVALUATION SYSTEM

A massive overhaul is needed in the current evaluation system in the centres for higher learning. Reforms are needed at the point of entry into the education system, in the continued and final evaluation process while students are in the system as well as in the processes that govern the undergraduate's ability to attend post-graduate schools, to join government controlled industry or to pursue professional careers such as medicine or law.

Evaluation at Point of Entry – All India Scholastic Test

In a vast and diverse country like India, it is extremely important to ensure that all deserving students regardless of the quality of their secondary board of education are given opportunities that their intellectual capabilities merit. India has 34 recognized or approved boards of secondary and senior secondary education.⁴³ As students travel across the country to seek admission in universities and colleges, it is becoming increasingly difficult for colleges to compare all students across the board at a uniform level. On some occasions, a truly intelligent student is denied admissions because her superior performance in a secondary board of perceived low threshold is not of much consequence. Due to the diversity in India, it is important to have the ability to compare students in order to guarantee that no deserving student is left behind in the quest for higher education.

An all India test is needed such that colleges can somewhat calibrate students from different backgrounds during the admissions process. If an all India test is instated, outstanding candidates can be easily picked based on their performance on the test. In a competitive scenario, reputable institutes will pursue these exceptional performers in order to maintain their own standards of academic excellence and quality. Thus the

⁴² “Appointment of Vice-Chancellors in Universities” by H.S. Virk. Published in Current Science, Vol. 81, No. 6, 25 September 2001

⁴³ Ministry of Human Resource Development, Govt. of India.
<http://www.education.nic.in/htmlweb/boards.htm>. Last accessed February 15, 2006.

interests of all meritorious candidates will be protected. Another benefit of an All India Scholastic Test is that it will not only exert meritocratic pressure on the students but it will also pressure all the different boards and/or states to improve secondary education. If one state especially lags in secondary education, it will be evident from the results of the test. Thus, an all India test will induce some transparency in assessing not only the applicant's academic quality but also the quality of student body at institutes across the nation. It will give more bargaining power to students and universities will improve standards to attract top performers.

In designing an all India test, it must be ensured that the test is not based on particular subject knowledge but is based on general skills such as logic, reasoning, aptitude, analytics and written communication. The good news is that the introduction of an all India test is not as mammoth a task as one would imagine. The design of the test can be modelled on other successful nationwide tests such as the Scholastic Aptitude Test (SAT), ACT, GRE or GMAT which are conducted by organizations like Education Testing Service (ETS), a private non-profit testing body in the U.S. A significant amount of research has been done in designing these tests and it should be leveraged in designing a test that fits the Indian model.⁴⁴ Given the rise of internet connectivity, there is also an option to offer computer based tests and do away with the burden of paper tests and manual evaluations to a large extent (some particularly backward and remote areas parts of India and students with little exposure to computers may still need paper based tests). Also the burden of administering these tests need not be borne entirely by the government. It can let private companies bid to conduct these tests and allow them to charge a nominal fee to recover costs. However, it must be ensured that poor students are adequately subsidized.

Creative examination system and Continuous Evaluation

The system of evaluation for students pursuing an undergraduate degree needs to be revamped. Success in the current examination system is dependent on the student's ability to memorize and learn by rote up to one year's worth of study materials. Students

⁴⁴ Some of this research is available at ETS website: <http://www.ets.org/>

pass courses based on a single final exam at the end of the year. Even these exams can be easily mastered simply by memorizing solutions to the previous few years' questions. Typically, these exams offer excessive choice in questions which enables students to selectively study the course materials. Moreover, there is a disconnect between the subject matter that is taught in classes and that which the students are tested upon. This is because the examinations papers are written by a person who may or may not be within the same college and because the evaluator for these exams is always someone from a different college (except in a few institutes such as IITs and IIMs). Due to this disconnect, there is a lack of transparency in the examination system and long feedback timeframes.

Reform in the evaluation system is critical to ameliorate the quality of higher education. It is important to reset the goal posts and redefine the metrics for success. Once this is done, the various factors, such as infrastructure and pedagogical processes, that contribute to achieving these successes will automatically adapt to the new conditions and create a meaningful and efficient system. The testing goals for all subjects must be a) critical reasoning and not rote memorization, b) problem solving and analytical ability, c) understanding of the principles underlying the subject, and d) creative and original thinking. These testing goals can be achieved by designing and incorporating a continuous and creative appraisal system as is installed in most western universities. Some useful tools are homework, projects, participation in class discussion, in-class presentations, and research papers. In terms of the exam itself, no repetitive questions must be allowed and minimal or no choice in questions in a test must be promoted in order to encourage thorough learning. Other innovative techniques such as open book exams or take home tests should also be embraced because they test the student's conceptual understanding of the subject and not the student's ability to cram. These kinds of exams will automatically require the faculty to design exams creatively and test the student's problem solving and reasoning skills.

In his 2004 Independence Day speech, Dr. Kalam, the President of India, said that "there is a demand for a more transparent and reliable system of examination, evaluation and

reporting.”⁴⁵ This demand can be easily addressed if the faculty who teaches the course also does the evaluations. This will significantly cut down the amount of time it currently takes for students to receive their grades and evaluated scripts. It will make the system transparent and reliable as students will be able to clear any doubts about their marks with the examiner himself. Also, in cases of re-evaluation, the process will be straightforward and efficient while cutting down the response time as well of costs of the process. In installing an evaluation system, comprising the institute’s internal faculty members, for liberal courses, the faculty member must keep in mind that he is to test the student’s ability to form independent opinions based on evidence rather than simply regurgitate the faculty member’s viewpoints from class. The current system of the third party examiners was installed to check the quality of institutes and the ethical conduct by internal faculty members. In order to ensure high quality from all professional colleges an outcome-based testing system will be the most effective.

Outcome based Testing

In the current system, if an affiliated college were to make a unilateral declaration of independence and set its own syllabus and fee structure in order to improve the quality of the coursework, it is likely to suffer disaffiliation from the parent university which implies that its graduates would be ineligible for academic, government and defence services employment. Thus even those colleges with good academic reputations remain under the suffocating stronghold of universities and face declining quality due to outdated curricula and pedagogic methods. The framework of the higher education system must be such that it encourages universities and colleges to upgrade syllabi, and checks the downward trend in quality in accredited institutes. One way to achieve this goal is to base the certification for practice and employment on a test at the end of the training period as opposed to graduation from an accredited college. This kind of an outcome-based testing system is also easy to upgrade because it simply implies that the test be redesigned: compare this to the current system which requires individual review of each college. In the case of an upgrade, once this outcome-based test is redesigned, colleges

⁴⁵ Embassy of India – Speeches of Indian Leaders. <http://www.indianembassy.org.ua/english/speech44.htm>. Last accessed February 27, 2005.

will automatically upgrade their syllabi and provide the necessary training so that their graduates are adequately equipped to take the test.

For example, there are several medical colleges in Ukraine, Russia and China that cater exclusively to India students. Students graduating from these colleges take a test conducted by the Medical Council of India (MCI) upon the successful completion of which, they can practice in India. MCI has no say on the manner in which medical education is imparted to these students. Their certificate to practice is based solely on the performance in this test. If this kind of a certification is possible for foreign graduates then why is it that the domestic medical colleges need to conform to a plethora of rules and regulations? Why not have a similar outcome-based test at the end of a student's medical career and thus do away with all the regulations that are in place simply so that the student may graduate from an 'accredited institute' and thus be eligible to practice. Saumya Hospitals and College (SHC) has taken the first step in this direction. Having entered into a tie up with the International University of Health Sciences (IUHS), St. Kitts, SHC plans to set up a medical college in Vijayawada, which will not be under the purview of the MCI or the UGC. Its students will be considered foreign medical graduates and in they will have to clear the screening test conducted by MCI to set up practice or go for higher education in India.⁴⁶

REGULATORY STRUCTURE

Verification Board

The parliament should facilitate the creation of private universities subject to minimal restrictions. To this end, it can create a verification board, which will conduct the due diligence at the time of creation of the university. An autonomous national board should be set up that will check the credentials of any person or group of persons aiming to set up a new public or private institute of higher learning. This board will also appoint vice chancellors in public universities set up by the central government. State level boards must be set up to appoint vice chancellors to state universities. Both national and state

⁴⁶ "It's foreign, yet desi". Published by The Hindu, Education Plus on February 6, 2006.

level boards can be set up by an Act of the Parliament under Item 66 of List 1 and under Item 25 of List 3 of the seventh schedule of the constitution. The mission of the board must be to identify those persons and university models that will provide the much needed leadership and vision in the tertiary education sector in India, which in turn will create intellectual, innovative, socially responsible leaders and citizens of India. This board should also be tasked with verifying the veracity of intentions of all prospective Vice Chancellors and university board members. To help the verification board make its decisions, certain requirements must be introduced for prospective centres of higher learning. These are:

- 1) Application must include the overall model or concept of the university. For instance, how the university aims to fund programmes, attract faculty, admit students, what is its broad curriculum framework, intended research activities and administrative structure.
- 2) Application must also include a letter of intent or mission statement.
- 3) The past background and credentials of the proposed university board must be verified and validated. Selected board members should possibly be interviewed.
- 4) An initial endowment fund should be set up in order to protect students from rogue institutes.

In setting up the verification board, the aim must be to include as many stakeholders of the tertiary system as possible and leave no scope for political interference. The entire verification and appointment process must be driven by non-governmental players. The following list proposes one potential composition of this verification board.

- 2-3 Leading academia representatives from the Indian education system including at least one education expert
- 1 Leading academic from outside the Indian education system
- 1-2 Policy analysts
- 2 Industry representatives
- 1 Arts and culture representative
- 1 Social activist / Civil society representative

The board must refrain from too many regulations and instead view applications on a case-by-case basis in order to promote leadership and innovation. It must also disregard any location-specific rules regarding faculty or VC appointment.

Accreditation Body

Accreditation and assessment are two very important processes that are carried out to maintain the quality of education in an institution. When most of the widely acknowledged centres of excellence in the higher education sector (For example: IITs, IIMs and ISB) choose to remain outside the accreditation framework, it shows the lack of trust in and the ineffectiveness of the accreditation process. Accreditation in India has thus lost its meaning. A strong higher education sector must be adequately buttressed with a sound system of accreditation. There are several different models of accreditation that are used around the world. These frameworks must be evaluated and a new accreditation framework must be designed to fulfil the unique needs of the Indian higher education sector. The framework should be one that evaluates the institute's commitment to the pedagogical and academic goals as discussed throughout this paper. State and national level accreditation bodies can also be set up by an Act of the Parliament under Item 66 of List 1 and under Item 25 of List 3 of the seventh schedule of the constitution.

Independent Rating Agency

Besides an accreditation body, there must be rating of education institutes by an independent and private agency. These ratings must be universally accessible so that students and parents can make informed decisions when choosing between educational institutes. The rating should compare different institutes and their programmes on multiple criteria and perhaps even rank them. Some of these criteria should be curriculum, faculty, faculty student ratios, post graduation placements, extracurricular activities, infrastructure, research programme, value for money, diversity in course offerings, diversity in students etc. The process used for rating the institutes, the criteria used as well as the individual scores for the different criteria, should be readily available and completely transparent (a nominal fee can be charged). Installing a rating mechanism of this kind will have a positive impact on the system in many ways: A) No

student or parent will be disadvantaged while choosing between institutes and programmes. B) There will be an added pressure on institutes to deliver high quality programmes to ensure good ratings. C) Multiple rating criteria will give incentives to colleges to improve on multiple fronts in a holistic fashion. D) Ratings will enable employers to calibrate job applicants based on their preferred criteria. A transparent process will ensure that all its users are aware of any caveats in the rating system and it will also elicit constructive feedback from all the stakeholders. In due course of time, other firms may also come up with alternate rating mechanisms, which will improve the quality of the ratings themselves and in turn the quality of educational institutes.

Once these three regulatory bodies are functioning, and the examination and evaluation system migrates to an outcome-based system as discussed earlier, market forces will automatically induce self-regulation in the higher education sector. The Universities Grants Commission (UGC) and the All India Council for Technical Education (AICTE) can then be completely divested of their regulatory functions. Their sole responsibility can be the management of funding to public universities and research programmes.

ALTERNATE SOURCES OF FUNDING

While, most of the recommendations discussed above do not require a massive infusion of funds, generally speaking, most universities do need larger budgets in order to enhance their programmes, facilities and infrastructure. As discussed earlier, access to larger funds will aid in effective faculty recruitment as well. In this regard, all universities should be encouraged to leverage their vast resources and assets. For instance, they should be allowed to rent their auditoriums or sports facilities for shows and contests, or lease buildings and spaces not in use. Universities should also allow their faculty members to take on consulting work as it also helps faculty members stay updated with contemporary technologies and practices. According to a McKinsey and Nasscom study, many Indian colleges are facing acute shortage of good faculty that is partly due to low

pay and limited opportunities for outside consulting work.⁴⁷ Regulations limiting an institution's revenue streams should be eliminated. One such regulation is Section 12A(3)(c) of the UGC ACT that states: "no college providing for such course of study shall – (a) levy or charge fees in respect of any matter other than a matter specified in such regulations; (b) levy or charge any fees in excess of the scale of fees specified in such regulations, or (c) accept, either directly or indirectly, any payment otherwise than by way of fees; or any donation of gift (whether in cash or in kind)." In fact, the government should give tax breaks to encourage different revenue sources and philanthropic investments.

Some major sources of revenues outside of fees prevalent in the top universities of the U.S., United Kingdom and Australia are:

- a) Interest from investments;
- b) Differentiated fee structure for foreign students - U.S., U.K. and Australian Universities are the leading exporters of foreign education and charge hefty fees for foreign nationals when compared to local students;
- c) Commercialized R&D via licensing of intellectual property, research collaborations with industry etc.;
- d) Gifts from philanthropic individuals as well as large and established alumni networks;
- e) Continuing and distance education programmes;
- f) Other degree and non-degree night and weekend courses, such as Executive MBA programmes, professional training courses etc;
- g) Consultancies and commercial spin-offs;
- h) Funding from international agencies such as the World Bank or the Asian Development Bank for specific projects, for instance setting up campuses in developing countries or development related research projects⁴⁸

⁴⁷ "India's Looming IT Labor Shortage" Published on December 16, 2005 by Business Week. http://www.businessweek.com/technology/content/dec2005/tc20051216_530300.htm?campaign_id=rss_tech. Last accessed February 25, 2006.

⁴⁸ References for alternate sources of funding: http://prayatna.typepad.com/education/2005/07/what_are_the_so.html. Last accessed February 25, 2006. <http://www.rmittraining.com/docs/AnnualReportRMITTraining2004.pdf>. Last accessed February 25, 2006.

Even universities in China are taking the lead in incorporating new sources to supplement their revenue.⁴⁹ Meanwhile, under-utilization of assets is still a common trait in most Indian universities. A policy framework must be designed that encourages the use of assets and resources in universities and instils a corporate culture in the university's operations so that administrators will leave no stone unturned in appropriating funds.

CONCLUSION

By reforming the regulatory framework and giving the right incentives to all the stakeholders in the system, India can easily transform existing institutes into centres of excellence and promote more private initiatives. Simultaneous investments in order to establish world-class public institutions will signal India's commitment to higher education to the global and local market, which has multi-fold benefits. A) This show of commitment and excellence will encourage private educational initiatives to put their best foot forward in order to compete effectively with public institutes. B) Large multi-national companies and other foreign investors would be willing to set up units in India if convinced that the nation is creating knowledge workers and is committed to doing so in the future. C) It will become increasingly rational for students to remain in India for a similar education at a smaller price and faculty to come back to India for similar research opportunities and pay packages as they would be guaranteed in the West, thus, easing the problem of brain drain and the loss of foreign currency. Similarly, installing a strong accreditation body, verification board and rating agency will also show a commitment towards quality higher education.

Given limited government funding and initiative, relying on private initiatives and incentives is an important policy direction: although, there has already been an unplanned and de-facto privatization in the sector.⁵⁰ However, it is also clear that the rules of the game and the institutional mechanisms that are going to exist in the tertiary education sector have to be set by the government and that both public and private commitment and

http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/News36/text009.htm. Last accessed February 25, 2006.

⁴⁹ Hindu Opinion Article: "Excellence in education: the Chinese way". Published February 17, 2006.

⁵⁰ Devesh Kapur and Pratap Bhanu Mehta, "Indian Higher Education Reform: From Half-Baked Socialism to Half-Baked Capitalism. CID Working Paper No. 108. September 2004. pg 5-8.

investment is needed. It is important to recognize that the dual private-public institutional mechanism is not only inevitable but also necessary because any one extreme form of institution will not reap the maximum benefits for the nation nor will it address the total demand.

The Chhattisgarh episode, whereby about 120 private universities sprung up in the state of Chhattisgarh in three years, occurred because the law permitted "self-financing" private universities to come up in the state. Majority of these universities were fly-by-night universities with not so much as a campus or classrooms. This incident occurred due to the malfunction of the policy for private universities and not purely because these institutes were private: at least 7 private universities established under the Act have since undergone the necessary due diligence and exist today.⁵¹ To avoid such mishaps, it must be ensured that policies designed are well thought out and formulated while keeping in mind the interests of all the stakeholders. These stakeholders should be active participants in the debate that precedes the making of a policy and their voices must be included in the decision-making bodies to the greatest extent possible.

Everywhere in the world, higher education is the harbinger of the future. Higher education is integrally linked to the economic, cultural and social health of a nation. In a developing country like India, reforms in higher education have the potential to achieve sustainable and far-reaching improvement in the lives of millions of Indians. These reforms will lead to incredible growth in an increasingly knowledge-based economy which requires a sustained inflow of skilled and talented workers. The opportunity is tremendous and policymakers must urgently develop a coherent and rational approach towards the management of the entire sector.

⁵¹ *Prof. Yashpal and Anr. vs. State of Chhattisgarh and Ors.*, SC 2005. (Available at <http://judis.nic.in/supremecourt/qrydisp.asp?tfnm=26777>. Last accessed March 6, 2006.) "The education fiasco in Chhattisgarh". Published by Business World India. http://www.businessworldindia.com/b_school/news_articles22.asp