

Oh, What A Beautiful Mess!

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Ever since one can remember admission to the Indian Institutes of Technology (IIT) was through the Joint Entrance Examination (JEE), which is considered one of the toughest entrance examinations for technology students anywhere in the world. My son appeared for the examination in 1988-89 and he topped it. For this he put in twelve to fourteen hours of preparation time per day for a whole year and even though his JEE record stands to this day, till the result was announced he was not confident that he would be selected. There were only five IITs in those days, with Kharagpur being the oldest. The Birla Institute of Technology and Science (BITS), Pilani, Benaras Hindu University Institute of Technology and the Roorkee University were considered almost as good as the IIT, but nevertheless the latter named institutions were considered to have an edge. An IIT graduate was coveted by universities abroad, especially the United States of America and IIT students could just walk into a university of their choice for postgraduate studies. The students were so good that in G-MAT, the entrance examination for Business Management studies, only five persons have ever achieved 100 percentile point, one being Robert McNamara and four others being IIT graduates, including my son. The Indian Institute of Technology tag carried an academic distinction which was not considered less than MIT, Caltech and the Leyland Stanford Institute of Technology.

The Central Government, in addition to the IITs, set up institutes of national importance in technical education of which NITIE, the Indian Institutes of Information Technology and the Indian School of Mines were the lead members, followed very closely by the National Institutes of Technology. For admission to these institutions government constituted the All India Engineering Entrance Examination (AIEEE). Students thus had a choice of taking JEE, AIEEE or both. These examinations give an opportunity to bright young students who had completed the Higher Secondary Examination to compete for admission to the best technical institutes in India. The system worked and has been working right up to today.

Running parallel to these All India examinations are the engineering entrance tests conducted by various State Boards for professional examinations. For example, the Madhya Pradesh Professional Entrance Examination Board conducts PET for engineering, PMT for medicine and similar professional examinations for admission to State run colleges in Agriculture, Business Management, Pharmacy, etc. These examinations qualify students for admission in other engineering colleges either run by the State Government or by institutions and universities in the private sector set up under a State Act.

In the States for other disciplines such as Humanities and Social Sciences, Natural Sciences, Commerce, etc., the marks obtained at the Higher Secondary level (Class XII) in either the State run Board of Higher Education or the Central Board of Secondary Education and other similar organisations which conduct Higher Secondary Examinations, are the criterion for admission. Depending on the examination score and the cut-off point subject-wise which each college lays down, students obtain admission to a particular course of studies in a particular subject and because of the cut-off point colleges naturally get graded between those most sought after and those which are a last resort for desperate students seeking admission. Within the education system, by distinguishing colleges in this manner, an educational caste system is created which must inevitably lead to downgrading of the quality of education whilst

simultaneously giving an inferiority complex to students who come from colleges considered to be substandard.

A natural corollary of the driving need to excel in order that one may get admission to a good college is the proliferation of the so-called coaching classes. The relatively small town of Kota is the epicentre of the coaching earthquake and accommodates approximately four lakh students all eager to use coaching as a means of doing well at entrance examinations. Coaching classes are a direct slap in the face of our formal education structure because it means that our schools are not preparing our students adequately for them to be able to tackle an entrance examination or get adequate marks at the higher secondary level in order to be found fit for admission. The question which arises is whether our entrance examinations have become so mechanical that through coaching and repetitive practice of solving examination papers a student can be automated to do well at an entrance examination. If that be so we need to seriously look at two things: - (1) The standard of our schools and our teachers and the method of education followed (2) The format of our examination papers so that instead of being amenable to answering through a drill they in fact test the aptitude, knowledge, analytical skills and ability to think independently of each one of our students. If the examination system stops being mechanical the reason for the existence of coaching classes would disappear. Unfortunately enough attention has not been given to the issue.

Let me illustrate this. When I appeared for the IAS examination in 1956 for the 1957 batch the Civil Services Examination consisted of three parts.-

- (a) Three compulsory papers which were General English, English Essay and General Knowledge.
- (b) Lower papers. The Indian Police Service and other Central Services had to take two lower papers, which approximated to a basic bachelors degree level. The Indian Audit and Accounts Service had to take three lower papers.
- (c) Advanced papers. The Indian Administrative Service and the Indian Foreign Service had to take three compulsory, three lower and two advanced papers, which approximated to a postgraduate level.

The examination was so organised that for the IAS not more than one lower and one advanced paper could be from a subject studied for the bachelors degree. Because entrance was at twenty-one years and upper age limit was twenty-four years most of us had only one degree. One could take only one lower and one advanced paper from the subject in which one had a degree and all of us had to study for two lower and one advanced paper on our own in a subject which we had not formally studied. For example, my discipline at B.A. and M.A. levels was Economics and I had to take, apart from General Economics and Advanced Economic Theory, two lower papers for which I chose World History and International Law and one advanced paper for which I chose Advanced Political Thought. As a result of the way in which the examination was organised it did not matter whether one came from the Humanities stream, Liberal Arts, Social Sciences or Natural Sciences. Each one of us was examined in subjects which we had not studied in college and for which we had read up on our own. The distinction between Services based on the number of papers one took clearly made IAS and IFS the two senior Services and all other Services were sister Services but not totally equal. That is reflected even today in the vast canvas covered by the IAS and the relatively narrow focus of other Services. However, since this examination system was changed somewhere in the mid-seventies

of the last century and there was one single examination for all Services with no distinction about the number of papers taken, with the question papers also being made much more multiple choice, objective type in format, it is people from the streams of Technology, Science and Mathematics who began to predominate because their minds are more given to mechanical answers, whereas Humanities and Social Sciences students are more attuned to analytical logic and reasoning. The nature of the Civil Service has changed and inter-service rivalry and bad blood has increased because Services other than IAS feel that they have taken the same examination and a few percentile points only made a difference to placement. Because of this coordination, cooperation and cordiality between the Services have all been lost, much to the detriment of the administration.

Something similar is happening to the entrance examination for engineering courses. For one thing a system which worked is now being restructured without thinking about all the consequences of such restructuring. The main criticism of JEE which has emanated from the Ministry of Human Resource Development is that it is elitist, weighted against students from small town India and works against any effort to improve school education while encouraging coaching classes. Therefore, the Ministry, working under the cover of the IIT Council, has decided that there will be one single entrance examination for technical education throughout India. It is not clear whether this covers State run colleges or not, but that seems to be the hidden implication. There would be two components of the examination – one is the marks obtained in the Higher Secondary Board Examination, that is, Class XII. The second component would be the marks obtained in the entrance examination and the two would be combined to rank the students. It is also proposed that the top twenty percent of the students would have to take a further test to qualify for IIT. This line of reasoning suffers from a whole multitude of errors and is based on a complete misunderstanding of how our school system functions. We initially started with Boards of Secondary Education which give a Matriculation Certificate after Class X. An elitist large city school which charges high fees and has a better paid and better qualified faculty, together with excellent classrooms and laboratory facilities is at an advantage over less fortunate schools meant for the ordinary child. Pitting these two types of schools against each other is like asking a school hockey team from a village which has never seen a turf hockey field, leave alone an Astroturf field, against the Indian Olympic team.

This may sound harsh but it is a reality and, therefore, in order to protect the rural constituency politicians tend to lower the standards of the Higher Secondary School Boards so that the percentage of rural failures comes down. In other words, almost every State Board functions on the basis of the lowest common denominator, which is certainly not aimed at improving academic standards in schools. The fact that the better schools all over India have shifted to CBSE or, where they can manage it, to ICSE proves that there is a huge gap between the standards of these two Central Boards and the State Boards. Within the State Boards also there are differing standards and there is just not enough evidence available for us to arrive at a template which would enable us to do equalisation in marking. For example, does 97 percent marks in the State Board of, say, Jharkhand equate with 85 percent marks of the Goa Board or 72 percent of CBSE? If such equalisation, which the Ministry calls normalisation, is not possible, how does one take into account Higher Secondary Board Examination marks when determining the ranking of students in the all India single examination system? In an open letter written by Prof. Dheeraj Sanghi of IIT Kanpur to Prof. Baruah, Director, IIT Guwahati this point is beautifully argued and I am sure there is no answer to the questions raised by him.

Let me give an example from Madhya Pradesh where the Higher Secondary Examination and the professional entrance examination for technical education conducted by the M.P. Board of Professional Courses Examination are conjointly considered for admission to engineering colleges in the State. The parents of two students, one of whom had obtained 27 percent in the PET examination and the other had obtained 24.50 percent came to me with a request that I try and get their children admission to a local engineering college. Both had obtained less than pass marks in PET and the XIIth Class Board marks were 72 percent and 52 percent respectively. I asked the Vice Chancellor of the Rajiv Gandhi Technical University, to which are affiliated all the engineering colleges in the State, whether there was a cut-off point in the PET examination for admission. He told me that if a student had got at least 40 percent marks in the Higher Secondary Examination he could be considered for selection even if he has got zero in the PET examination. If this logic is extended to the IITs and other institutions of national importance we would get illiterates who cannot get one mark in a professional examination being eligible for consideration for admission. Is this what we want to do with our institutions of higher education and technology?

The argument advanced by the Ministry in favour of a single examination is that students have to take too many examinations and because of this they go to coaching classes. The obvious fallacy is that they would go to coaching classes regardless of the number of examinations they have to take because these coaching classes train them for all the examinations which, in any cases, follow a similar format. In a two-tier examination which is now being proposed the coaching classes will in fact proliferate because they will prepare students to get more marks in the higher secondary examination, then try and get enough marks to be in the top 20 percent of the common examination and then further improve their position within the 20 percent so that they can be admitted to an IIT. The present proposal is a boon to coaching classes and is not aimed at reducing their importance. The second argument is that if Higher Secondary Board marks are taken into account for admission, then the standard of education will improve in the schools. How this will happen is beyond my comprehension. The standard of education in some of our schools is excellent. For example, the Navodaya Schools, which are all located in rural areas, admit students from a rural background charge no fees but have relatively good teachers, better classrooms and laboratory facilities than an average government school and are fully residential, have outstripped all other schools in CBSE results. The children are motivated to rise above their rural origins and because they are given a fair chance of getting decent education they have grasped it with both hands.

I had suggested to the Prime Minister since 2004 that the 560 odd Navodaya schools be increased to 10,000 so that schools of excellence could be established in large parts of the country. The Prime Minister agreed and I was informed in 2008 that he had announced that 6,000 such schools would be set up. Unfortunately the Minister for Human Resource Development, Shri Kapil Sibal and the Deputy Chairman of Planning Commission, Shri Montek Singh Ahluwalia thought otherwise and decided that the schools would be in a Public-Private Participation mode, which virtually torpedoed the scheme. My howls of protest ultimately caused government to decide that 3,500 schools would be in the public domain but in my meeting with the Prime Minister I was left with some doubt about this. A government which is not prepared to emulate and imitate its own successful experience cannot really claim that it is interested in raising the standard of school education. In fact my allegation is that government in the Ministry of Human Resource Development, Department of Higher Education is in conspiracy to ensure that school standards do not improve but rather that our Boards of Higher Secondary

Education are led into the paths of deceit and fudge results so that students have a higher percentage in their Board Examination and thus automatically become at least partially eligible for admission to the Indian Institutes of Technology and other institutes of national importance.

As a former civil servant I am naturally conservative, but as one who took premature retirement eight years before my date of superannuation, I am not status quoist. This means that if we need change in the system of entrance examinations for our institutes of higher technology we can initiate them, but this cannot be done ad hoc. Certainly the method of going about this is not for Shri Sibal to drum up support by holding meetings of deemed universities and making them endorse his proposal. I was Chairman, ABV-IIITM, Gwalior and in the IIT Council meeting this issue was never discussed. Had it been proposed I would have certainly taken a good, sharp look at the proposal and come up with our suggestions about how an entrance examination should be conducted. But what is a real mystery to me is that a perfectly good and proven system of a Joint Entrance Examination for the Indian Institutes of Technology and an All India Engineering Entrance Examination for other institutions which are either equal to the IITs or just one step below is being abandoned. If MHRD is attempting a revolution what it has achieved is anarchy. Under these circumstances does India really need this Ministry?
