CHAPTER SEVEN

QUALITATIVE ANALYSIS WITH CASE STUDIES

The qualitative questions in the tool were analysed separately to harness to the finer details of the problems under study. The responses from both the institutes were almost similar. In fact the students belonging to the general category were quite aware and sensitive towards the problems of the reserved category students. The discussion related to each question follows separately.

7.1 STUDENT'S PERCEPTION

7.1.1 Problems of Weak Students

Relative grading, in which the students are marked keeping in mind the performance of the best student, develops a peculiar fissure in the self esteem of the students who are weak, because the gap with peers demoralizes them. Added to it is the tough competition with other students also. Language ability, mathematical aptitude, weak communication skills, lack of proper guidance and support from professors, pace of instruction, time management, low socio economic background along with financial problems are some of the hindrances for the weak students of IIT.
The HBTI students also had all the above problems along with 'medium of instruction' and 'weak rapport' between student and teachers. This could be so because HBTI maintains the strict divide between student, teachers due to its colonial past unlike IIT.

7.1.2 Problems Faced during Job Search

The IIT students responded that the companies were biased by previous selections and recruited students who were more likely to stay with them. If the students previously employed from IIT were quick in 'job change' then the company diverted to other engineering colleges. Bad performance, poor language, lack of job information database, shrinking of the manufacturing sectors, conflict between parent field and software shifts, erratic trends and patterns in private sector were some of the major problems during job search.

The HBTI students also had similar problems, along with lack of branding, which would not come to them in package deal with the degree. All the students irrespective of the category they belonged to were facing similar dilemmas and uncertainties.

7.1.3 Institutional Overall Experience

Most of the respondents from IIT were happy about being there due to the immense prestige it involves, which added to their confidence and
enhances their personality. The competitive environment and other activities kept them on their toes, which helped them hone their competence.

The HBTI students were little disappointed and responded that the institute needed introspection and revamping though it did help them to some extent to further their area of interest. This could be due to constant comparison with IIT which not only is in same city but in close vicinity too.

7.1.4. Institution Job Market Link

The students from IIT felt that the courses should be more computer oriented as they will create more opportunities in the software companies. They found themselves well branded with good signals to the labour market, although they felt that the placement cell could play a more active and crucial role and that they suffered due to the disadvantages of being housed in Kanpur which is not as developed as Delhi, Mumbai or Chennai. Some students found a gap between theory and practice and wanted them to be more compatible.

The students from HBTI also seconded this gap between theory and practice. They had even lesser access to computers and their campus placement suffered from lack of standard branding thereby giving weak signals to the labour market.
7.1.5 Individual Efforts for Jobs

The students of IIT relied more on campus interviews and take the written test and interviews of the visiting company. They keep honing their programming skills and language ability and prefer applying on the internet. They rely heavily on their seniors and alumni who are their supports.

The students from HBTI concentrate more on the improvement of communication skills, current researches in their field, informal networks, personality development. They seem to be a little less dependent on their placements and the companies it invited. This could be because the companies visiting Kanpur would prefer IIT to HBTI due to its superior 'signaling'.

7.1.6 Improvement of the Course

The IIT student wanted the courses to be made more job oriented, interesting and practical. They felt the need to introduce more specializations and optional paper like 'software development'. They had good suggestion for amending teaching methodology like making course more interactive, modern, online with less emphasis on grades.

The HBTI students seconded the suggestions of IIT and along with demands for making available more books and study material.
7.1.7. Training Improvement

The IIT students responses were very concrete. They suggested for more link with the industry, more project courses, involvement of faculty, better laboratories, more computer friendly environment and linkages with industries of the developed countries.

The HBTI students wanted increase in the training duration, more alternative methods of teaching and involvement of faculty along with other authorities. Since engineering is a professional course the courses should be made more practical oriented, as per suggestion of the students.

7.1.8. General Suggestion

The IITians wanted a basic test to be introduced on the basis of which job should be ascertained. More summer courses needed for interested students. International linkages to be established for better renumerations. They also wanted companies to be more responsible and unbiased while selecting and see overall performance rather than just interview performance.

The students of HBTI wanted professional career counselling and sound briefing before the arrival of the visiting companies along with information on industry ranking of the company for more job satisfaction.
Thus we can conclude that the input (students) in the educational system have good suggestions for the process for better ‘output’ (labour force). Since students are the real beneficiaries their suggestions on being incorporated will do well for the system. Some case studies were also made for deeper understanding and insight into the study.

7.2. PROFILE OF CASE A

Case A was a confident and bright youngster. He was an SC, the son of a factory worker from Unnao (UP). As a student in school, case A was enthusiastic and felt that he was at the top of his class in the government school where he studied. He lived with his parents in a two room tenement, along with four siblings.

His interests in life were sports, physics and friends. His major ambition was to do very well for himself in the future and to rise up the socio-economic ladder. He had seen his father struggle to keep both his self-respect, and his family well-provided.

When he was in Std. X, a teacher from his school told him about this famous institute in Kanpur, the IIT, which had other centers in different parts of India, and that this was the best engineering college in India. Education in that kind of environment would almost guarantee a job. But there was a hitch—a test called JEE (Joint Entrance
Examination). To clear the test it was necessary to get coaching in the sciences and maths.

He contacted his teacher who promised to help him with whatever study material he had. Thus, case A began his preparation in Std. XI. Since it would really take a long time to prepare for his national level examinations. Case A worked regularly and found that the level to which he had to progress was indeed very high. He gave up many times but the fact that there was scope to avail of reservation and the prestige of studying in an IIT made him persist.

Case A sat through the examination and finished it. He came to know a few weeks later, that he had cleared it and that he could get into the IITs. He heaved a sigh of relief. There, his future was secure!

In the July 1997, Case A entered the IIT campus at Kanpur. “Beautiful place!” he exclaimed to himself. Since Case A was very sweet and pleasant looking in this outward appearance, many people tried to force him into a conversation, near the academic office. They spoke a curious English, something like he had heard in some English movies. Anyway, he replied politely to all the quarries till the question of his JEE rank came up. He had been warned by those all-knowing friends back home that this was something he should try and avoid telling. But case A being the straightforward person that he was, told them at once that he was an SC candidate and that he had cleared the JEE with a lowered
cut-off. Silence, and the people around him dispersed muttering some excuses under their breath.

Soon he came to know other students who had availed of reservation and everyone shared their views, their expectations, their impressions and their apprehensions. His roommate was also an SC, a smart boy who looked very rich.

Case A started attending classes, everything seemed to go above his head and if he approached the Professors, they talked so fluently that it was difficult to understand what they said. Case A tried to cope with all this by studying much more than he had ever done before. He borrowed books from the library, the only problem was that some of them were terribly old. He had a feeling that he would definitely do well though there was also something called the relative grading system which could offset a person’s performance against the total number of competitors during the semester. And to his dismay, his first result was a Semester Performance Index (SPI) of 5.0. He got very dejected and went to the professors concerned. “You will have to work harder, work on your basics. They need to be improved”, they explained.

He worked still harder the next time and found that his SPI was slightly lower than the first time. The quizzes were too tough, the classes were often beyond comprehension. Case A could just not figure out what was wrong; he worked so much more than before. He was disappointed;
he could not concentrate on his studies. He felt he could not solve his problems; he had very little to go on. He had been a topper in Unnao but had failed in four courses in his first semester in IIT. Case A was so distraught that he was all set to quit the programme. It was at this time that one of his friends asked him if he would like to come to see the IIT sports meet in which he was participating.

Thus, case A came to know that there was more to the IITs than just academics. So he got into sports. Being a good carom player and a good tabla player, Case A was soon known to everybody who was a great entertainer. Even general category guys greeted him. He studied less but was more happy. His grades did not tumble down; they just dropped a little every time. He had a few backlog courses but life was so much more fun. Then came the Third Year. Time had flown past and in a year or two case A would have to leave this place. Where would he go, was his first question? What would he do in the future? With the kind of performance he had, he would not be able to stand anywhere in an open competition. Then, he decided that the best option after IIT would be to go for a public sector job with the help of the reservation scheme, and get on with life.

What case A had gained during his IIT stay was the ability now to converse in English, especially in the IIT lingo and to dress almost as trendily as the others. He had initially felt the lack of manners and he continued to feel inferior because of his background and his father's
occupation. He also felt quite helpless as far as his studies went. He could not think of help from friends in academic matters for in the IITs, in academics especially, as everybody was a competitor. Thus, from a confident individual who had belief in his own capacity, case A turned into someone who knew he would always depend on the reservation scheme to get ahead in life and thus preferred government or public sector job.

7.3. PROFILE OF CASE B

Case B was the son of a teacher in a school in Kanpur, Uttar Pradesh belonging to reserved category. His father taught in the secondary school, and always dreamed that some day one of his four sons would do something remarkable. His wife taught at the primary school nearby. Both of them had taken the government facility of reservation to get ahead in life. He knew that in comparison with the poor farming background that he came from, his present status in life was a major lift in terms of social standing. His parents knew that they owed a lot to the preferential policies.

Case B was good at studies. So, the obvious choice for the big dream was the course B.Tech. and the big dream unfolded in the form of the JEE advertisement that came in the papers announcing the entrance to the IITs, the most prestigious engineering institute in India.
With encouragement from his parents, case B worked very hard and was all set to take the JEE. To really prove himself, he did not want to divulge that he belonged to the SC category. Case B was quite confident that he would be able to make it, but then a doubt crept in, what if..., What if he just missed? All his efforts would go wasted, maybe it was better to use the reservation facility on hand. After all, he could still do very well once he had entered the Institute.

So case B applied as a special category candidate eligible for the reservation scheme. The entrance was tough but case B knew that he had done very well. He was selected as an SC candidate and was asked to join HBTI. The family was jubilant.

He always strived to do his best. He was aware at the same time that the environment in the HBTI was very hostile to students from his background. He knew of many who were ridiculed and snubbed and were even made to feel inferior during the entire.

But case B was very clear about his objectives which were to get a good grade at the college and take up teaching in a prestigious institute. Gritting his teeth and holding on against all adversities like financial problems, social alienation, shortage of books, homesickness and heavy course load, case B more than just survived. He did very well and on a par with the general category students. He left the Institute head held high, having made full use of the facility that had ensured his future. He
undeniably carried on though he knew that there were many students from his background who were unable to cope. May be he would help them one day. He started forming informal networks to help students his type get jobs.

7.4. PROFILE OF CASE C

Case C entered the IIT through the Preparatory Course available to reserved category students. He joined IIT Kanpur after completing his Preparatory Course in Delhi. Hailing from a lower middle class tribal family of Mizoram, Case C had lived for a few years in Kanpur with his uncle. Case C’s education had been completed largely in schools run by missionaries. It was during his first year in college in Delhi that case C had heard about the IIT’s. he wanted to go there because his friends had told him about the prestige and the weight that an education from the IITs carried. Being a very ambitious boy, case C made up his mind that he would somehow get into the IIT. When he informed his parents about this decision, his father thought it was a joke. But when he understood the seriousness of his son’s decision, he cautioned him that the family would not be able to bear the financial load.

Case C had a plan in his head, he would avail of the reservation scheme. It would ensure an entry into the IIT and the financial assistance that was available as part of the reservation scheme. He convinced his parents with the help of some well-meaning friends.
He worked for around nine months besides preparing for plus two examinations. He could not get through the JEE. Not to be disappointed, he decided to give it a try the following year again and the second time he did get into the Preparatory Course. At last, he had made it. His Preparatory Course for IIT and a seat in HBTI. He chose the latter he would save on the time. He joined HBTI Kanpur.

However, he soon discovered that the standards at HBTI too high for him to cope with. What could he do? There was no way he could go back. He had to live with his poor grades. He tried to work hard but seeing the kind of results that he kept getting, case C was not motivated to work. The pressure was tremendous, the pace of teaching fast and, there was no help from classmates and friends. Besides, he always got this feeling that he was in some way inferior to all those other students, and lacked the urban upper class culture which included wearing jeans, listening to western music and making plans for studying abroad.

From a free and happy person, case C turned into a depressed individual. He constantly felt incapable and inferior to the others around him. The only bright spot in his life were a few classmates who were from a similar background as himself. They would sit for hours together and talk about the happenings in the campus, and see time pass them by. They would discuss their poor performance, their lack of smart clothes, the prejudices and the treatment from the general category student and
the staff and the teachers. They felt cheated of the big dream that admission was a solution to their problems.

They had already made up their mind that once free of his ordeal, they would avail reservation once more and get a secure job in the public sector. After all, in the open world where competition was tough, their grades and performance would not get them too far. He was not selected in the good companies and had got a relatively poor paying job.

7.5. PROFILE OF CASE D

Case D hailed from an upper middle class SC family of Madhya Pradesh where his father was a doctor in the city of Jabalpur. Case D wanted to do well and maintain the family status. After all in his community, theirs was the only educated and rich family. Case D would have to be either a doctor or an engineer.

Case D opted for the latter and appeared for the JEE and other engineering enhance examination in Std. XIII. He was selected for HBTI. He loved the setting, facilities and the status of HBTI and with his well-groomed looks he was able to keep his special category status hidden from most of the student community. Whenever needed, he could always flaunt his possessions-a range of shoes, tennis and badminton rackets or could always take out his friends for a good ‘bash’. Life was convenient and with some effort case D could get 60 percent. He did
not need more than that. Peacefully clearing his course and enjoying life, though examinations time and quizzes were particularly stressful, case D found he could manage them. Case D hung on as he knew, once out of the HBTI with a B. Tech. degree he would manage to get selected in the Indian Engineering Services through the reservation scheme and will join a private job only if not selected by union public service commission, with his smart exterior getting in the private sector was not difficult and he managed to get one.

7.6. PROFILE OF CASE E

Case E was very talented, intelligent and vibrant reserved category student from Kerala. His father was a manager in a local factory. He was very ambitious and wanted his only child case E to do something very big in life.

When he heard about the IITs and the scope of availing of the reservation scheme to enter the IITs, he said to himself that his son should be convinced to join the institute. After all it meant just four or five years, at the end of which he could easily be placed in a very good organization with his IIT qualifications. He was convinced finally, much against his plea that he would like to join an Arts College and major in the fine arts.
So, case E entered IIT Kanpur through the JEE, with two years of study after his Std. XI. He could clear the JEE on his second attempt. From the first day on, he intuitively knew it would be a disastrous experience.

There were these serious-looking professors who rattled off problems, theories and equations all of which were quite incomprehensible. The only lectures he would enjoy were those in English literature and a course in Philosophy. He fared terribly in the first semester much to the disgust of his teachers and very much to his expectations. His father was called and counseled. He convinced the authorities that he should be given another chance. Case E tried again but could not comprehend much of what went on in class. He was becoming very depressed internally while putting on a brave face externally. Somehow he managed to complete B-Tech and wanted to settle for any job that came his way, even if it was not related to his branch.

7.7. PROFILE OF CASE F

Case F, a general category candidate had always been a top ranker in class, despite his father’s repeated transfers and change of school. His father a senior manager in a private sector company at Rajasthan had risen to this position after considerable hard work. Case F’s mother also taught in a local school. Both his parents had always been confident of
the abilities of their two sons. Case F being the elder was always under considerable pressure to excel in academics.

Having lived in urban places, case F was quite aware of the various career opportunities available. He chose engineering as his profession, but he wanted to join the IIT. He nurtured this ambition from Std. IX on. He obtained a set of Target-IIT correspondence notes from his friend's brother. However, he started preparing for the JEE examination seriously only after completing his Std. X examination.

He took a correspondence course for two years. His parents were quite sure that he would make it and openly expressed their confidence in their son's abilities to their friends. This intensified the need in case F to clear the JEE at any cost. His hard work paid off and he was admitted to the Mechanical Engineering course at IIT. At IIT he learnt that a Management degree from an IIM, along with Engineering degree from an IIT, would get him a top job. So he decided, in the first year itself to pursue his management course after IIT. Despite peer pressure to participate in sports and cultural activities, case F spent considerable time on his studies. He was regular in attending classes, submitting assignments and following up class lecturers. The result was that he was always among the top three students of his department. He managed a good job through placement and individually too.
7.8. PROFILE OF CASE G

Case G was the only daughter of a scientist at BARC, Bombay belonging of general category. Her mother was also a teacher serving in a nearby college. She lived in a house in the BARC colony where all her neighbours were academicians. Since her early childhood, she had observed her father attend conferences and seminars, prepare papers and remain engrossed in reading most of the time. Her mother too took her work quite seriously.

With this background it was only natural for case G to set higher targets for herself. When she was in Std. IX itself, she applied for Target-IIT, the logical stepping stone towards JEE. She worked out all the problems that she possibly could, besides, her father was always there to help her.

Rigorous studies towards the JEE began right after the Std. X examinations. Two years of hard work, and case G came out with flying colours. She got a good rank in the JEE and opted for the B. Tech. Programme in Computer Science and Engineering at IIT Kanpur. She was the only girl in her department that year and felt there was gender discrimination. The boys had ego problems and thought it below their dignity to talk to her on common academic problems.
Case G's academic performance was very good. By the end of second year, she had a CPI of 9.04. She was regular in her studies and used to frequent the library.

Her stay at IIT was pleasant. She was popular among her hostel inmates and found the campus life full of opportunities to learn new things, participate in sports and dramatics. Her parents were a constant source of inspiration to her. She finished her B. Tech with multiple jobs in hand.

7.9. PROFILE OF CASE H

Case H was the son of a general category class II officer in the state services of Bihar. He lived with his parents and two other siblings in the crowded two-room apartment provided by the government. His mother was a housewife and he grew up seeing his parents struggling to provide good opportunities to their children. Despite meager earnings, case H was sent to an English medium convent school. His classmates came from affluent backgrounds – it was then that case H decided to make it big. And he chose the right path. He had seen advertisements in the newspapers of various engineering institutes and their admission procedures. He discussed the future with his teacher one day who told him about IIT engineering. He learnt that admission to engineering was through a common entrance test for all the five IITs and that he needed to prepare specially for the entrance test. He had also seen in the
newspaper advertisements of coaching institutes preparing students for the JEE. He joined a coaching institute after Std. XI. But he found it difficult to cope with Std. XII studies as well as study for the JEE. He did not appear for the entrance test in May after his Std. XII examinations but did not lose hope and with renewed vigour he continued his preparation even in the first year of his college. He made it in the next year and joined HBTI’s Mechanical Department.

In the first year he found it difficult to cope with the academic life. He could not get books on time, did not know how to prepare for tests and quizzes and felt quite ill at ease in the new environment. Though he wanted to change his branch to Computer Science. He felt that his poor performance was primarily due to the fact that he spent a lot of time in the evening preparing laboratory files for experiments and being left with very little time to study. He also felt that there was too much emphasis on lectures rather than problem solving due to which his doubts could not get cleared. All these factors, in his view, led to his mediocre performance. Inspite of this he was selected during campus recruitment for a middle level assignment.

7.10. PROFILE OF CASE I

Twenty year old case I is a general category final year student of Metallurgy at IIT, Kanpur. His father retired as a professor from a prestigious Science Institute in Bangalore just when case I was
completing school. He lived in a joint family sharing the home with eight members. He had always lived in metropolis and the family income had just been adequate. After the Std. XI examinations, his elder sister suggested to him that he prepare for the JEE. The previous year, a friend's brother had passed out from IIT Kanpur and was now in the US doing his MS. The prospects of going abroad sounded quite attractive to case I.

He took coaching in sciences and maths both from some private tutors and from a coaching institute. Despite financial difficulties faced by the family due to his father's retirement, his parents were more than willing to pay for their son's coaching.

Case I had now started discussing his career with other friends who were also wanting to become engineers. Most of his friends sounded quite discouraging they told him of how difficult it was to clear the JEE and that the local engineering college entrance tests were far simpler and easier to 'crack'. But case I did not lose hope. He was the only one who continued to persevere in his studies for the JEE. After preparing for almost two years case I fared miserably in the entrance test. When the results were declared case I roll number was nowhere on the list. Though he knew that he had not done well in the examinations, he felt quite disappointed. He realized that many of his friends had secured admissions in other regional engineering colleges. This added to his frustration. For quite sometime case I did not know what to do. He did
not want to join first year science. He decided to appear for JEE again next year. He worked even harder. Since he did not join college he had sufficient time to study for the JEE. His family constantly supported him despite their difficulties. Case I cleared the JEE in the second attempt. His performance was an average 6.0 CPI but due to the IIT branding, he managed a good job in the private sector.

7.11. PROFILE OF CASE J

Case J was a happy-go-lucky teenager fond of music, painting and drama belonging to general category. He dreamt of becoming a painter some day. When he was to appear for his Std. X examinations he realized that elders around him had some other dreams for him. He lived with his parents, elder brother and his grandparents. His grandfather had retired from a public sector company posted in a small town in Uttar Pradesh. They lived in a fairly large house provided by the company. His elder brother was in the Second Year B. Tech. Programme at IIT Kanpur. After his Std. X examinations, pressure from his father and brother kept mounting on him to prepare for the IIT entrance test. Case J soon realized that becoming a painter might only remain a dream for him.

Though case J’s mother was a housewife, she was educated and quite confident of her sons’ capabilities. Being the younger of the two sons case J was pampered by his mother. For two years she gave a lot of time to her family so that case J could be given all the physical comforts.
He did not have any family responsibilities and so had sufficient time at his disposal to study.

Finally, the day of the examinations arrived. His father accompanied him to Lucknow, where he appeared for the JEE. He was a little unsure before the examinations began but soon regained his composure. He did finally make it to IIT Kanpur. His family felt relieved, his future was bright.

But case J was a bit uncomfortable because his dream to become a painter kept lingering. On joining IIT he spent a lot of time in “gag” sessions at night enjoying himself with his friends. He lost all interest in academics. But at the end of the first semester he worked up with a start when he saw that he had a low SPI. In the Second Year he was cautious from the very beginning. He attended all classes, was regular with his assignments and spent more time to academics. This helped him improve his SPI and he felt happier. He found that he could approach some of the faculty even after class hour to clear doubts.

Case J did not lose interest in painting, thanks to the numerous facilities in IIT. He was now also interested in drama and music. He participated in several events and won many awards. Due to his all round development which enhanced his personality, he managed a good job from campus, and plans to migrate to US after a short stint with job in India.
7.12. SUMMARY OF CASE STUDIES

A comparison of the profiles of the different student groups shows that most SC and ST students feel totally out of place in the IITs and HBTI and generally experience a deep sense of isolation. Their academic development is far from satisfactory leaving them with high goals never to be achieved. Also they fail to integrate in the institutes environment. Consequently, their development also receives a setback. When leaving the institute, they are diffident. They are conscious of their inability to compete and mix with the general category outside college, as equals. Their lack of development is characterized by unfulfilled, unrealistic aspirations which prompt in them a sense of dependence on the scheme of reservations for the future as well. As a result, the development and integration of the SCs and STs in the world outside the institute is affected. This foregrounds, with urgency the need to understand the areas and levels of integration and development of SC and ST students, and do something to remedy the situation.

By contrast, the general category students find their stay in the college pleasant. Though they also suffer from academic tensions, they are able to cope with them due to a supportive family and good friends. Both the SC and ST and GE students keep aloof from faculty in case of difficulty. They sort out their problems with the help of friends. Again as a couple of profiles suggest that even GE students find it difficult to

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'crack' the JEE and similarly if they clear it after multiple attempts, they suffer from academic difficulties in IIT. They also have some family problems which may impede their academic achievement. However, where the major difference lies is in the fact that they do not suffer from low self-esteem, diffidence or the inability to integrate with society after an IIT education like the SC and ST students do. During the campus interview these factors help them get a good job instantly which further boosts their morale at the same time demoralizing the reserved group, each failure works as a further setback for the latter. Academic performance along with economic, social and psychological factors impede the job prospects.

7.13. LABOUR MARKET: QUALITATIVE ANALYSIS AND INTERPRETATION

We begin by emphasizing a remarkable fact of life: between any two groups viz IIT & HBTI of individuals of the same age and sex, the group with more education of whatever kind will have higher average earnings from employment then the group with less, even if the two groups are employed in the same occupational category, or, to put it differently’ everyone tends to earn more as they grow older and acquire more experience, but the person with more education will tend to start off at a higher salary and this differential will widen with age right up to the last year before retirement. The successive “age-earnings profiles”, as they
have come to be called, will be neatly in ascending order without ever crossing each other. The universality of this positive association between education and earnings is one of the most striking findings of modern social science. It is indeed one of the few safe generalizations that one can make about the labor market. Education everywhere appears to be regarded as something valuable that must be financially rewarded. It seems one due reflection that there are three competing explanations namely (1) education imparts vocationally useful skills which are in scarce supply; (2) education disseminates definite social values (3) education acts as a screening device to select the most able people for the best jobs. They can also be labeled as economic, sociological and psychological explanations.

7.14. ECONOMIC EXPLANATION

The "economic" explanation is, in a nutshell, that better educated workers earn more because they are more productive, presumably because of the knowledge they have acquired in colleges. The phrase "educated workers are more productive" is one of those technical expressions masquerading in everyday language, which is misunderstood. First, of all because all factors of production participate jointly in the productive process, it is not possible to establish the proposition simply by comparing more and less educated workers. The contribution to final output of a particular factor like educated workers

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1 For some representative examples, see Blaug, Introduction to the economics of education, Op. cit., pp. 24-
can only be assessed "at the margin", that is, by holding constant the quantity and quality of all the other factors. Thus, the phrase "educated workers are more productive" is sloppy shorthand for "education makes the marginal worker of a given age, sex, native ability and work experience more productive when he is furnished with the same quantity and quality of environment, education and training.

Secondly, the statement that education renders people more productive immediately directs our attention to the skill requirements of the jobs, the demand side in the labour market. It could be more natural to assert that education, by teaching various branches of engineering, allows people to fill more productive jobs and in that sense makes them more productive. The terms "productivity" in economics in exactly equivalent to "scarcity". Someone is highly productive if he possesses something that is extremely scarce. Scarcity is a relationship between demand and supply. In short, if everyone was eager to take up engineering so that in consequence engineers were more plentiful than dish washers, the fact that it takes knowledge of civil engineering to build bridge and no knowledge whatever to be a dishwasher, would not keep the earnings of engineers above those of dish washers. Unless employers had an irrational preference for engineers they would refuse to pay 'abundant' engineers more than 'scarce' dishwashers. Conversely, when we observe engineers earning more, we cannot account for it simply in terms of the technical requirements of occupations, we must explain that
supply of engineers is less than the demand. A good reason is that it takes a longer period of training to become an engineer and training is costly because of the fee and the 'opportunity cost'.

Thirdly, the proposition "education makes workers more productive" is completely vacuous about the precise character of the educational experience. Economists often emphasize on the cognitive learning and manual skills as the essence of the economic value of education. But education to economists is simply a "black box" they do not profess to know what happens to anyone passing through it; all they know is that employers somehow value the experience and are willing to pay for it.

What makes the whole problem even more difficult is that casual observation will show us that virtually every labour market is simply riddled with imperfections of all kinds. Labour market for professionals are likely to be characterized by further imperfections. The costs of recruiting labour generally tends to be higher simply because it is difficult to determine the possession of knowledge with a single or a battery of tests. In the circumstances, employers tend to resort to simple rules-of-thumb in hiring professionals who have experience. Another thumb rule is to hire more educated workers for complex jobs that involve initiative and drive, in short to lean heavily on educational qualifications as an index of certain personal characteristics.
This brings us to what is surely one of the principal economic function of the educational system namely to certify the competence of students “Skill labeling by paper qualifications”, as Leibenstein\(^2\), has called it is a useful ‘social invention’ because it reduces hiring costs in labour markets by obviating the need to test the type and degree of skill on every occasion the skill is bought, what at the onset was an effective device for reducing the costs of obtaining information about workers ends up all too frequently as a potent source of the malutilisation of labour.

On supply side, there are still further imperfections the patent inadequacy of vocational counselling, the weight of non-vocational factors in choosing a career; and virtual impossibility to borrow in order to finance one’s education. In addition, particularly in less developed countries, chunk of manpower with secondary or higher education is employed in government, public sector or administered pay scale which are geared directly to paper qualification. We may sum up by understanding the fact that the “economic explanation” of the higher earnings of better educated people ultimately depends for its validity on a broad, empirical judgment in favour of the competitive hypothesis.

\(^2\) Harvey Leibenstein: “Shortages and surpluses in education in underdeveloped countries”, in Anderson and Bowman, op. cit., p. 56.
7.15. THE SOCIOLOGICAL EXPLANATION

The "sociological" explanation comes in at least two varieties. The first one asserts that the correlation between social class origins and education is at least as high as that between years of schooling and earnings. Educational systems aim is to promote children solely on the basis of merit, but merit is judged not by an IQ test taken at an early age but by the capacity to pass examinations, which by no means is the same things as native intelligence, this loads all the dice in favour of children with educated parents and educated parents are largely well to do. Thus this argument holds that far from the educational system providing an avenue of upward mobility for the socially disadvantaged it effectively perpetuates it from one generation to the next. No doubt it pays to have well-to-do parents.

The second explanation rests on the fact that all organization are hierarchically arranged like a pyramid, so that as we ascend from the apex, the number of superiors and the degree of accountability to those higher up in the chain of command continually increases, while the degree of supervision by others decreases. These who stand at the top of each layer of the pyramid must have the personal confidence to command others and must share a common loyalty to the organization if the organization is to survive at all. It is no accident that these positions are frequently filled with university graduates people who have crossed
the successive hurdles of secondary and higher education are likely to have acquired the appropriate personality traits of independence and self reliance. At different levels of education, besides cognitive learning encourages punctuality, obedience, respect for authority, initiative self reliance and ability to command others in a hierarchical fashion. Thus ability to command is received through higher education perceived as prized in occupational mobility.

7.16. THE PSYCHOLOGICAL EXPLANATION

Educational credentials act as surrogates for qualities which the employer regards as important, they predict a higher level of performance. From the students view, this characteristic of educational credentials provides an urge to obtain more education as the only way of securing a competitive advantage in the labour market: an additional paper qualifications acts in effect as an “entry pass” for entry into the labour market.

The implications of the “psychological” explanations are devastating. Since on this argument the economic returns of education to society are merely those of providing a screening device for employers, and since the provision of education everywhere entails considerable social costs, it follows that the net contribution of education to national output is not proportionate. The educational system, according to this explanation is merely an extremely expensive selection mechanism which
forces people through finer and more finer sieves. No doubt, employers need some device for discovering skills and abilities and education is an un-economical for employers to certify skills. Beside, it virtually implies that ‘ability and drive’ are innate capacities that require only discovery and not development. It ignores the whole area of professional and vocational education which does impart specific skills that can not be acquired except by formal preparation.

Thus we conclude by synthesizing the above explanation that education contributes to economic growth by transforming the values and attitudes of students than by providing skills and cognitive knowledge. Education is economically valuable not because of ‘what’ students know but because of ‘how’ they approach the problem of knowing. Educational system is a superb discriminant of the ‘sorting of abilities’.