

Problems and Prospects of Technical Education in Assam: with special reference to female enrolment.

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Abstract

The north-eastern states of India thrive to become one of the leading states in the field of education. The state of Assam among the seven sisters has the maximum number of schools, colleges and universities both private and the government. Gauhati, which is considered as a gateway to north-east is the most developing city among this states and has the maximum number of institutions imparting technical knowledge. Higher education in the form of technical education enhances human resource development by creating skilled manpower, thereby multiplying industrial productivity and improving the quality of life of its people.

Here in this research paper we will personally visit certain technical institutions of Assam and try to find out the problems faced by the institutions, faculty members and students. The plight of women in the education scenario will be mainly emphasised in this research paper.

KEY WORDS-Technical education, Higher education, Skilled manpower, Quality of life

Declaration:

We hereby declare that this paper is an original contribution and has not been considered for publication anywhere else.

1. INTRODUCTION

Higher education creates technical and skilled human resources as an important input for overall economic development. It also makes people empowered socially, politically and culturally. Higher education covers education in agriculture, veterinary, medical, pharmaceutical, engineering, technical and vocational education etc, along with general higher education. Higher education is vital that equips individuals with advanced knowledge, skills and improves an individual's quality of life. It was after independence that a rapid expansion took place in the field of higher education.

Technical education is a part of higher education, which can make individuals a productive part of society. It gives an individual the chance to acquire practical knowledge, requisite skills and training needed for self employment.



The history of technical education in India can be traced to epic and Vedic periods, when numerous technical skills such as carpentry, smithy and weaving were part of education. Technical education geared up to a great extent in India after the industrial revolution of the nineteenth century. Although technical education has profound impact, Assam is still facing some problems in this sphere to compete with the global players, especially after education became a marketable product and after India opened its market for global competitors.

Technical education in Assam started with the establishment of Prince of Wales Institute of Engineering and Technology at Jorhat before independence in 1927. It was followed by Assam Engineering Institute and Assam Engineering College at Guwahati in 1948 and 1956 respectively. Then the Directorate of Technical Education of Assam was established in 1960 to manage the technical institutes and colleges of Assam. Presently there are four engineering colleges and ten polytechnic institutes under this directorate. There has been a long journey of evolution of state technical education in the state of Assam. Besides the state run technical institutes we have two national level institutes, the National Institute of Technology (NIT),

Silchar and Indian Institute of Technology (IIT), Guwahati.

Out of a total population of 1.3million, the gross literacy rate in India is 74% which accounts for 82.2% male literacy and 65.5% female literacy. This disparity in male and female literacy is found in all the three levels of education i.e. primary, secondary and post secondary levels. The gross enrolment ratio in higher education stands at 8.8% of the total population (2011 census). Technical education which is a segment of higher education experiences wide scale inequality in terms of male and female enrolment. With the drastic change in science and technology it is urgent the women give weight to technical education. It is estimated that only one-third of the science students and 7% of engineering students are women in India (census 2011). This substantially petty participation is seen not only in Assam, India but also across the globe. For instance, in Brazil, female representation in tertiary level, namely biological, medical and life sciences was an astonishing 70% in 2009 while for engineering, physics and computer science, was a mere 21%.

In this research paper we have randomly selected 13 technical institutions and colleges of Assam, explore their

complications and grounds for the small association of female members of society in technical education.

2. REVIEW OF LITERATURE

These studies look into the problems of technical education in Assam and also emphasise on the imbalance in enrolment of male and female in technical education.

Pant (2011), in his paper, titled “Technical Education in North East India: Problems and Prospects” analysed the drawbacks of technical institutes of Assam in terms of syllabus, faculty, infrastructure, job opportunities etc. He emphasised that these loopholes has to be repaired for the socio-economic development of the region.

Evans (1995) highlighted in “Barriers to participation of women in Technological education and the role of Distance Education”, the barriers to women’s participation in technical education and also established how far and under what conditions distance education may offer a means of reducing significant barriers to participation in different cultural contexts.

Saikia (2013), in the article “Challenges of higher education in Assam for development

of human resource” emphasised on the big challenges faced by higher education and technical education in Assam. He mentioned financial problems, infrastructure problems, high cost of education, shortage of qualified teachers, problems of standards and inequality to be the reasons behind inadequate development of technical education in Assam.

3. OBJECTIVES

The following objectives are taken for performing the survey--

- To identify obstructive forces in promotion of girls in technical education.
- To highlight the problems faced by the technical institutes of Assam.
- To suggest measures for improvement of technical education in Assam and also to increase participation of girls.

4. METHODOLOGY

4.1 Area of Study:

The study has been conducted in the technical institutes of Assam which were selected randomly. Most of these institutes are concentrated in the two districts,

namely Kamrup and Jorhat which have the maximum numbers of technical institutes.

4.2 Sample Design:

A simple random sampling technique was used in the study to collect data. The study was carried out in 13(THIRTEEN) technical institutions and colleges of Assam namely, Assam Engineering College, Guwahati; Assam Engineering Institute, Guwahati; Institute of Science and Technology, Gauhati University, Guwahati; Don-Bosco Institute of Science and Technology, Guwahati; Assam Down Town University, Guwahati; Royal Group of Institution, Guwahati; Girijananda Institute of Management and Technology, Guwahati; Jyoti Chitraban Film and Television Institute, Guwahati; NITS Mirza, Guwahati; Jorhat Engineering College, Jorhat; Jorhat Institute of Science and Technology, Jorhat; Kaziranga University, Jorhat; Prince of Wales Institute of Engineering and Technology, Jorhat.

4.3 Tools for Data Collection:

Tools are generally used to carry out the research study. In this research work both primary and secondary data have been used as a source of collecting data.

In dealing with the real life problem, it is often found that data at hand are inadequate to proceed with the research work. Hence, it becomes necessary to collect primary data that is required for the purpose. Therefore, the primary data were collected from the field survey by interviewing faculty members, students, administrative body of the above mentioned institutes and colleges

Secondary data has been collected with the help of different books, magazines, newspaper, articles of different writers that have been previously published and from journals etc. Facts from internet have also been used.

5. Analysis And Interpretation

5.1 Existence Of Inequality And Their Causes

We have collected data regarding the enrolment of students to the above mentioned institutes and colleges. There we have found that there is an inequality in respect to the number of boys and girls enrolled in each year. The number of boys outnumbers the girls by more than 70%. The table below shows the total enrolment, number of male students and the number of female students for the year 2010 and 2014.

Table:1 Enrolment of male and female students

NAMES	MALE 2010	FEMALE2010	TOTAL	MALE 2014	FEMALE 2014	TOTAL
A.E.C	318	82	400	316	84	400
A.D.T.U	95	25	120	102	32	134
J.C.F.T.I	20	13	33	22	11	33
R.G.I	245	35	280	264	48	312
Don-Bosco	95	60	155	160	65	160
G.U.I.S.T	75	35	110	122	78	200
G.I.M.T	210	84	294	273	103	376
N.I.T.S	164	76	240	152	98	250
A.E.I	250	55	305	235	70	305
J.E.C	250	65	315	240	75	315
J.I.S.T	100	50	150	99	51	150
K.U	156	64	210	165	70	235
P.O.W.I.T	287	63	350	270	80	350

Source: Field Survey

We see that the rapid expansion of technical education in the present day world has led to the gender disparity in favour of boys. We have come to know that in certain branches like mechanical, civil and electrical the ratio of boys to girls is almost 9:1 in most of the engineering colleges. But the number of girls is seen to be more in computer science and chemical engineering branches. We have come to know that over the past years the number of enrolment of girls is gradually increasing, a positive sign towards balance participation.

There are certain reasons which obstruct the participation of girls in technical education, firstly, we have the various do's and don'ts for girls and women. These hindrances restrict them from taking up technical education as it requires a lot of physical

strength to perform the practical's and surveys included in the curriculum. Secondly, it is found that most of the girls are introvert and shy to interact with their male counterpart, which restricts their participation and performance in a technical college or institute. Thirdly, it is noteworthy that out of the total budgetary expenditure of Assam of a year, 6% is allocated towards education, out of this 11.63% and 1.63% goes to higher and technical education respectively. This makes technical education costly and becomes a problem for a population whose per capita income is Rs 30,569 (Economic census of Assam, 2011). Moreover in a patriarchal society, boys are given more preference than girls so parents prefer investing on the education of their male child rather than their female one. The

fourth reason being the practise of early marriage which halts the process of education of a girl as she has to get busy with the household chores rather than devoting her time and effort to studies.

We see with the passage of time these obstructions are fading and thus creating an environment of equality.

5.2 Problems Faced By Technical Institutes

The survey of the 13 technical institutes and colleges of Assam highlight certain prominent loopholes in their administration, curriculum, infrastructure, faculty, management and other related spheres. Some of them are discussed below—

i. STUDENTS RELATED PROBLEMS

The syllabus followed by the students in their curriculum is old and has not been updated for nearly 15 years in most of the institutes. It is seen that the demand for trained human resources is high in the areas of hydropower, bamboo technology, biotechnology, herbal remedies etc. Only few institutes are seen to have emphasised in imparting education and training in these areas thereby providing relevant courses to the students. It is also seen that student's interaction with industries,

workshops and manufacturing units involved in various fields is less than what is needed for applying their theoretical knowledge into practical fields. The students also face problem with regard to placement for jobs in reputed companies and industrial units. Few reputed private and public sector undertaking companies recruit students from the government engineering colleges and institutes but the recruitment number is quite small.

ii. INFRASTRUCTURE RELATED PROBLEMS

The infrastructural quality of the government technical institutes and colleges are in a dismal state. They lack proper management and the needed machinery, instruments and equipment for their practical. In this sphere the private technical colleges and institutes are in a better position.

iii. FACULTY RELATED PROBLEMS

It is often seen that faculty members move to better jobs whenever they get an opportunity in search of higher salary, respect, better environment and security. This creates an atmosphere of uncertainty among the students and the smooth learning process is hampered due to the frequent

intermittent absence of teachers. The technical institutes and colleges of Assam are also surrounded by many political and economic boundaries which restrict their growth.

5.3 Suggestive Measures

After the successful completion of the survey we would like to give certain suggestions for the improvement of technical education in Assam which will contribute immensely in human resource generation. The suggestions are as follows:

- Interaction between students and industries, manufacturing units should be increased.
- Syllabus should be updated with latest ideas and theories.
- Considering the demand, new courses should be introduced in all the technical institutes of Assam.
- Initiative should be taken by the institutes, colleges and the government to increase the recruitment of the students of Assam by both the public and private sector undertaking companies. Personality development programmes should be organised for the students.
- Government should sanction funds for the infrastructure development of the

technical institutes and colleges of Assam and should control and monitor the optimum utilisation of the fund.

- Technologically advanced machinery and amenities should be brought to the colleges and institutes of Assam so that the students stand at- par with the rest of India and the world.

6. POLICY RECOMMENDATIONS

- The government should reserve certain percentage of seats for girls in each technical institutes and colleges of Assam.
- The government can also give special scholarships to female students who take up technical education as a path to higher education.
- In the school level itself examples of successful technical graduates and diploma holders should be set as models to encourage girls.
- Various seminars and talks regarding advantages of various technical courses should be organised for girls, specially belonging to backward regions.
- Various non-governmental organisations (NGO's) and college teachers should give recognition and praise those parents who support their daughters to take up technical education.

- Institutionalised exhibitions, library and laboratory facilities should be introduced from school level to increase their interest towards inventions, technology and sciences.

The above mentioned steps will definitely reduce the existing inequality in the enrolment rates of the female students.

7. CONCLUSION

Assam's socio-economic betterment and quality human resource formation lies on the improvement of the quality of higher education and technical education. Paucity of infrastructural facilities, employment facilities, quality faculties, updated curriculum and advanced machinery, equipments etc are driving technical education into a dismal state. The enrolment of women to technical education is less due to the restrictions imposed on girls by society, early marriages, unwillingness to invest on girl's education etc. With the passage of time we see an increase in their participation. For the healthy growth and technical advancement of the society, the institutes' needs to work upon the difficulties so that Assam stand at par with technically developed states of India and the world.

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