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Problems Faced by Students Pursuing Technical Courses in Mizoram: An Analytical Study

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Abstract

Technical Education is the academic and vocational preparation of students for jobs involving applied science and modern technology. It emphasizes the understanding and practical application of basic principles of science and mathematics, rather than the attainment of proficiency in manual skills. In the present study an attempt has been made to find out the problems faced by students pursuing technical courses in all the seven institutions offering technical courses in Mizoram. Out of the population of 1247 students pursuing technical courses in the state, 280 i.e. around 20% of the students were selected as sample. A questionnaire developed by the investigators was used to find out the problems and suggestions of the students. The study found that students faced a number of problems, the prominent ones being insufficient number of permanent/regular teachers, inaccessibility and inadequate facilities for practical works and lack of co-curricular activities.

Key Words: Problems, Students, Technical education, Technical courses

Introduction

Technical education plays a very important role in the social and economic development of India. For the development of the country and to place the nation on the same path with a developed country, it is needed to produce technically skilled manpower in adequate number according to the needs. Development of skillful human resources takes place by technical education as well as non-technical education. However, it is through technical education that more skillful human resources can be produced. Apart from this, liberalization of the Indian economy demands well-trained personnel able to acquire new skills and knowledge independently. As such, it can be said that technical education is the base and the vital need for the development of socio-economic condition of the nation.

Technical education refers to learning of skills or some related skills by studying technologies, applied sciences

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and other practical activities. It emphasizes the understanding and practical application of basic principles of science and mathematics, rather than the attainment of proficiency in manual skills that is the concern of vocational education. It is the academic and vocational preparation of students for jobs involving applied science and modern technology. All India Council for Technical Education (AICTE) defines technical education as, *"Programmes of education, research and training in engineering, technology, architecture, town planning, management, pharmacy and applied arts and crafts and such other programmes or areas as the Central Government may, in consultation with the Council, by notification in the official Gazette, declare*".

The history of technical education in Mizoram could not be traced back very far as no proper record was maintained in the past. Technical education is still in its preliminary stage of development. Prior to 1989, there was no separate department for technical education. School Education Department, before its trifurcation, was responsible for all matters related to technical education. It selected candidates with the help of the concerned department, for admission in different technical courses.

In the year 1981, the Mizoram Government established the first Technical Institution named Mizoram Polytechnic at Lunglei, offering only one course, Diploma in Civil Engineering with an intake capacity of 60 students (Chhuanvela, 2007). The institution by this time was under the management of School Education Department. After 5 years in 1986, Diploma in Electrical Engineering was introduced in Mizoram Polytechnic, with an intake of 30 students and this became the second technical course introduced in Mizoram.

Based on the classification of technical courses mentioned in AICTE Process Approval Handbook 2013-2014, 16 courses were available in Mizoram in seven institutions at the time of data collection during 2014. Out of the 16 courses, 10 of them were started after the year 2000. The courses which were started before 2000 were only diploma level courses offered in Polytechnics. The first engineering course at bachelor degree level i.e. B.Tech. (IT) was started only in 2007 by Mizoram University, a central university which started functioning in 2001. The state was blessed by the setting up of National Institute of Technology (NIT) in 2010. Master of Business Administration (MBA) course was offered by Institute of Chartered Financial Analysts of India (ICFAI) University, Mizoram and Mizoram University (MZU). Bachelor of Pharmacy (B.Pharm) was another technical course available at Regional Institute of Para Medical and Nursing Sciences (RIPANS). Out of the 7 institutions offering technical courses, 2 are polytechnics run and managed by Government of Mizoram, 4 are under the management of Central Government and 1 is managed by a private body.

Rationale of the Study

Mizoram, one of the states of India, has been growing progressively in general education. Although, many researches have been conducted in the field of education by various researchers, research as well as detailed case study on technical education in the state has not been conducted. At present, only a few institutions offer courses for technical education and the courses offered are limited. As a result, the products of these institutions cannot meet the growing demand. Moreover, the institutions are not yet well established and are suffering from shortage of adequate infrastructure and facilities, equipment and materials, efficient man power and others. As a result, students are bound to face a number of problems. It is, therefore, important to explore the difficulties faced by students and to find solutions for the problems. Mizoram State Council for Technical Education (MSCTE) was established to improve the efficient functioning of technical education in Mizoram. There is a separate administrative unit of technical education under the Directorate of Higher and Technical Education to look after technical education solely. But till today, technical education is not popularly known and recognized among the general masses in Mizoram. There are important questions the answers of which are not yet known. In view of this, a study aimed at finding out problems of students and their suggestions was undertaken. It is expected that the study will have implications for educational planners and the authorities in their efforts to improve technical education in Mizoram.

Objectives of the Study

The present study has been undertaken with the following objectives:

1. To analyze the problems faced by students pursuing technical courses in Mizoram
2. To suggest measures for addressing the problems of students pursuing technical courses and for improvement of technical education in Mizoram.

Methodology of the Study

The present study is a descriptive study and involves fact-finding enquiries on problems faced by students of technical courses in Mizoram. Population of the study consists of all the students pursuing technical courses available in 2014 in all the seven institutions as detailed below:

Sl. No.	Name of the Institution	Courses Offered		Management
1	Mizoram Polytechnic Lunglei (MPL)	1	Diploma in Civil Engineering	Mizoram State Government
		2	Diploma in Electrical Engineering	
		3	Diploma in Mechanical Engineering	
		4	Diploma in Computer Science & Engineering	

2	Women's Polytechnic Aizawl (WPA)	1	Diploma in Modern Office Practice	Mizoram State Government
		2	Diploma in Electronic & Telecommunication Engineering	
		3	Diploma in Garment technology	
		4	Diploma in Beauty Culture & Cosmetics	
3	National Institute of Electronics and Information Technology (NIELIT)	1	Diploma in Electronic & Telecommunication Engineering	Central Government
		2	Diploma in Computer Science Engineering	
		3	Master of Computer Application (MCA)	
4	Mizoram University (MZU)	1	B.Tech (IT)	Central Government
		2	B.Tech (ECE)	
		3	B.Tech (CE)	
		4	B.Tech (EE)	
		5	Master of Business Administration (MBA)	
5	National Institute of Technology (NIT)	1	B.Tech (ECE)	Central Government
		2	B.Tech (EEE)	
		3	B.Tech (CSE)	
6	Institute of Chartered Financial Analysts of India University, Mizoram (ICFAI)	1	Master of Business Administration (MBA)	Private
7	Regional Institute of Para Medical and Nursing Sciences (RIPANS)	1	Bachelor of Pharmacy (B.Pharm)	Central Government

A total number of 1247 students were in roll in the seven institutions offering technical courses at the time of data collection during 2014. Thus, all the 1247 students constituted the population of the study. A sample of 280 i.e. around 20% of the students were selected randomly to obtain data about their problems. Data were collected through questionnaire constructed by the investigators. In the questionnaire 11 broad areas were included in which students were likely to face problems. Under each area, there were certain statements relating to the problems which had to be responded by putting a tick mark. The data were organized according to the 11 problem areas in terms of frequencies and percentages for analysis and interpretation. The results are presented in the succeeding section in tables 1 to 11 for the 11 problem areas followed by interpretation of the results.

Analysis and Interpretation of Data Regarding Problems of Students

Problems Related to Accessibility

Table1: Problems of Students Related to Accessibility

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Institution is too far from the city	92	66
2	Inadequate number of buses	78	56
3	Absence of bus service at frequent intervals	45	31

Table 1 shows that for 66 per cent of the respondents, far location of the institution from the city was a problem. For 56 per cent and 31 per cent of the students, inadequate number of bus services and absence of bus service at frequent intervals respectively were prominent problems.

Problems Related to Infrastructural Facilities

Table 2: Problems of Students Related to Infrastructural Facilities

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Inadequate number of laboratory	96	34
2	Absence of play ground in the campus	132	47
3	No recreation centre for students	90	32
4	Absence of space for indoor games	66	24
5	Unsatisfactory cafeteria	30	11
6	Unavailability of stationary store and reprography	90	32
7	Absence of cafeteria	30	11
8	Absence of auditorium	74	26
8	Inadequate provision of hostel	68	24
10	Absence of medical facilities in the campus	56	20

It is observed from the above table that, out of 10 problems faced by students with regard to infrastructural facilities, nine were from the amenity area. The main problem was absence of play ground in the campus (47%). 32 per cent of the students considered absence of recreation centre for students and stationary/ reprography store as problems for them. The table further shows that absence of auditorium was pointed out by 26 per cent, and absence of space for indoor games and inadequate provision of hostel was pointed out by 24 per cent as problems for them. Absence of medical facilities in the campus (20%) and unsatisfactory services of the cafeteria and absence of it (11%) generated problems for the students. Apart

from the amenities area, 34% of the respondents considered inadequate number of laboratory in the institution as a constraint for them.

Problems Related to Library Facilities

Table 3: Problems of Students Related to Library Facilities

Sl. No	Problems	Number of Students facing the problem (N=280)	Percentage
1	Inadequate number of books related to technical courses	106	38
2	Short duration of retaining books	52	19
3	Insufficient number of books a student can borrow at a time	34	12
4	Limited time for library due to heavy class schedule	18	6
5	Inadequate reading space and facilities	22	8
6	Absence of reprographic unit	90	32

Table 3 reveals that 38 per cent of the students considered the number of books related to technical courses to be inadequate, and 32 per cent faced a problem due to absence of reprographic unit in the library. For 19 per cent and 12 per cent of the respondents, the duration of retaining book was short and the number of books students could borrow at a time was insufficient respectively. A few numbers of students also felt that reading space and facilities in library was inadequate (8%) and time for library was limited due to heavy class schedule (6%).

Computer Related Problems

Table 4: Problems of Students Related to Computer

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Inadequate number of computers for students	68	24
2	Absence of printer for students	110	39
3	Slow network in the campus	24	9
4	Absence of internet facility in the campus	50	18
6	Non functional computer in the computer laboratory	30	11
7	No proper maintenance of the computer	14	5

With respect to computer related problems, the above table shows that absence of printer for students and inadequate numbers of computers were problems for 39 per cent and 24 per cent of the students respectively. The table further reveals that presence of non-functional computer in the computer laboratory (11%), slow internet network in the campus (9%) and no proper maintenance of the computer (5%) generated difficulties for the students. 18 per cent of the respondents also faced problems due to absence of internet facilities in the institution.

Problems Related to Equipments

Table 5: Problems of Students Related to Equipments

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Limited equipments for practical class	44	16
2	Non-functional laboratory equipments	66	24
3	No proper maintenance of equipments	60	21
5	Outdated equipments	42	15

Table 5 reveals that for 24 per cent and 21 per cent of the respondents, non functional equipments and improper maintenance of equipments in the laboratory respectively were their problems. It further reveals that for 16 per cent, the number of equipments was limited and 15 per cent considered that the equipments available were outdated.

Problems Related to Teaching and Non-Teaching Staff

Table 6: Problems of Students Related to Teaching and Non-teaching Staff

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Insufficient number of permanent or regular teachers	230	82
2	Absence of regular Principal due to dearth of qualified candidates	70	25
3	Inadequate number of technical staff for practical class	46	16
4	Inadequate number of attendants to maintain the equipments	46	16

Related to teaching and non teaching staff, Table 6 reveals that insufficient number of permanent/regular teachers was a major problem as reported by 82 per cent of the students. Further, absence of qualified candidates for Principal and inadequate number of technical staff and attendants were perceived to be the problems by 25 per cent and 16 per cent of the respondents respectively.

Problems Related to Syllabus

Table 7: Problems of Students Related to Syllabus

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Some portion of the syllabus are irrelevant for skill development	28	10
2	Some portion of the syllabus are irrelevant for the present situation	16	6
3	Too theoretical	34	12
4	Less interaction with industry for students to have firsthand experience	28	10

Majority of the students did not find any problem relating to their syllabus. Among the few students who pointed out the syllabus related problems, 12 per cent mentioned that the syllabus is too theoretical, ten percent considered some portion of the syllabus as irrelevant for skill development, and 6 per cent perceived some portion of the syllabus as irrelevant for the present situation.

Problems Related to Teaching - Learning Process

Table 8: Problems of Students Related to Teaching - Learning Process

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Uninteresting teaching	140	50
2	Lack of preparation of teachers prior to teaching	60	21
3	Too theoretical teaching due to limited use of aids	106	38
4	Language and communication problems	50	18
5	Too short duration of practical period and too long duration of theory period	50	18

6	Too long duration of practical period and too short duration of theory period	2	
7	Excess number of students in one class	4	1
8	Excess number of students in a group for practical and project	100	36
9	Irregularity of some of the teachers	26	9
10	Unapproachable teachers to share the problems related to studies	36	13

With respect to teaching–learning process, problems most frequently cited by the students were uninteresting teaching, too theoretical teaching due to limited use of aids, and excess number of students in a group for practical and project by 50 per cent, 38 per cent, 36 per cent respectively. The problems here lie mainly with the teachers. The other problems were found to be perceived by a negligible number of students.

Problems Related to Apprenticeship/Internship

Table 9: Problems of Students Related to Apprenticeship/Internship

Sl. No.	Problems	Number of Students facing the problems (N=280)	Percentage
1	Duration is too short to have experience	64	23
2	No proper guidance from the competent authority	20	7
3	Less remuneration	74	26

Relating to apprenticeship/ internship, 26 per cent, 23 per cent, and 7 per cent of the students perceived less remuneration, short duration, and lack of proper guidance from the competent authority respectively as their problems.

Problems Related to Co curricular Activities

Table 10: Problems of Students Related to Co curricular Activities

Sl. No.	Problems	Number of Students facing the problems (N=280)	Percentage
1	No proper arrangement for co-curricular activities	106	38
2	Limited facilities	100	36
3	Inadequate space	64	23

Regarding co-curricular activities, 38 per cent felt that the institutions did not make proper arrangement for co-curricular activities. Further, 36 per cent and 23 per cent of students stated that the facilities and space available for this purpose respectively were limited.

Problems in Connection with Placement

Table 11: Problems of Students Related to Placement

Sl. No	Problems	Number of Students facing the problems (N=280)	Percentage
1	Worry about placement/job due to unsatisfactory quality of technical education received	34	12
2	Worry about placement/job due to absence of proper campus interview	146	52

Table 11 reveals that in connection with placement, 52 per cent and 12 per cent of the respondents were worried about their placement/job due to absence of proper campus interview and unsatisfactory quality of technical education received.

Major Findings

From the analysis of the problems faced by students pursuing technical courses in Mizoram, the following were major findings:

1. Insufficient number of permanent or regular teachers was the biggest problem as the percentages of the students highlighting this problem was highest, i.e. 82 per cent.

2. The next prominent problems in terms of percentages of students mentioning them were far location of the institution from city mentioned by 66 per cent and inadequate number of bus services highlighted by 56 per cent of the students.

3. Other problems faced by more than 50 per cent of the students pursuing technical courses were worry about placement/job due to absence of proper campus interview (52%) and uninteresting teaching of teachers (50%).

4. Absence of play ground in the campus (for 47%),absence of printer for students (for 39%), inadequate number of books related to technical course (for 38%), excess number of students in a group for practical and project (for 36%), inadequate number of laboratory (for 34%), absence of recreation centre for students and stationary/reprography store (for 32%), absence of reprographic unit in the library (for 32%) and absence of bus service at frequent intervals (for 31%) were other prominent problems faced by the students of technical courses.

5. Problems mentioned by less than 30 per cent of the students were as follow:

a) Regarding Infrastructural Facilities: absence of auditorium, space for indoor games & inadequate provisions of hostel and medical facilities in the campus (for 26%, 24% and 20% respectively) and unsatisfactory services and absence of cafeteria in the campus (for 11%).

b) Regarding Library and its Facilities: Short duration of retaining book (for 19%), limited number of books students could borrow at a time (for 12 %), inadequate reading space with facilities and limited time for library due to heavy period

c) Regarding Computer and its Accessories: Inadequate number of computer for students (for 24%), non functional computer in the computer laboratory, slow network internet in the campus, inappropriate maintenance of the computer and absence of internet facilities in the institution (for 18%).

d) Regarding Equipment: Non functional equipment in the laboratory (24%), no proper maintenance of equipments (21%), limited equipment available (16%) and outdated equipment available (15%).

e) Regarding Teaching and Non Teaching Staff: Absence of permanent principal (for 25%) and inadequate number of technical staff and attendant for smooth functioning of the laboratory (for 16%)

f) Regarding Syllabus: Irrelevance of some portions of the syllabus for skill development (for 10%), some portions of the syllabus not suited with the present situation (for 6%) and syllabus too theoretical (for 12%) and interaction of the institution with industry was less (for 10%).

g) Regarding Apprenticeship or Internship: Less remuneration (26%), short duration (23%) and lack of guidance from the competent authority (7%).

h) Regarding Co-Curricular Activities: Facilities and space available for this purpose were too limited.

i) Regarding Placement: Unsatisfactory quality of technical education received (for 12%).

Conclusions

It is accepted worldwide that attaining faster economic growth requires a faster development of technical education and training. Developing countries need to emphasize on technical education and training as it is an essential part in capacity and competence building for the socio-economic growth and development. With regard to technical education, Mizoram is still in its infancy stage and is far behind other states of India. A big challenge faced by the state

is that being a developing state it has a long way to go to reach the same level of technical education as other states. The change in social and economic environment demands for more skilled-man power in various fields of work, Mizoram is lagging in this arena, and therefore, promotion of technical education to meet the demands is the need of the hour. The following measures are suggested for solution of the problems faced by students pursuing technical courses in Mizoram and for further improvement of technical education in the state:

- Necessary steps should be taken for the recruitment of teachers and to fill the vacant teaching posts to reduce the problems faced due to inadequate number of teachers.
- Transportation system should be improved by increasing the number of buses and setting of bus timing at more frequent intervals to solve the problems related to accessibility.
- Emphasis should be given on campus interview for outgoing and passed-out students. Proper functioning of Placement Cell and Counseling Centre in the institutions should be ensured.
- The already available infrastructure and equipments need proper maintenance in some institutions, as most of the equipments were obsolete.
- Authority must pay attention to all round development of the students. Institutions should be equipped with play ground, auditorium, space for indoor games, sports facilities etc.
- Duration of days a student can borrow books from the library and number of books a student can borrow at a time need to be increased by the institutions.
- Use of ICT in teaching-learning process should be promoted. To make their teaching interesting, teachers should make use of ICT facilities.
- Computers should be made available for students in the institutions. Efforts should be made to make the institutions or campuses Wi-Fi enabled to help students in accessing latest information and data from internet.
- Appointing more number of technical and supporting staff, increasing the number of laboratories, increasing the number of books related to technical courses, thorough preparation of teachers prior to teaching and increasing duration of practical period need to be taken care of by the institutions.
- Duration of apprenticeship where relevant, should be extended to enable students to have better and thorough experience in work.

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