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PROBLEMS OF INSUFFICIENT PRACTICAL EQUIPMENT: A STUDY THROUGH TECHNICAL AND VOCATIONAL EDUCATION IN BANGLADESH

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ABSTRACT*: The purpose of this study is to demonstrate the most important problems of technical and vocational education with eager explanation due to insufficient practical apparatus in technical and vocational institution in Bangladesh. Technical and vocational education aims at implementing empirical and practical action in education and profession. But the problems in practical education are getting bigger day by day due to lack of adequate practical equipment in technical and vocational institutions in Bangladesh. This present study is a study of the problems of teaching in practical education at technical and vocational education in Bangladesh in order to find out some useful means with the help of which science teachers especially teachers of practical subjects can effectively teach about practical in the classroom and students can study superior technique. There have some problem of practical teachers, classroom, practical apparatus and textbook of practical. The researcher has identified the problems of teaching practical and recommended probable remedial measures about the problems. The Research work was done according to the method of qualitative and quantitative or somehow mixed. The study was conducted on a random sample of 270 respondents in technical and vocational institutes in Sirajganj district. Questionnaires were used to collect data from the students and teachers to assess the situation of practical equipment in technical and vocational education of Bangladesh. In this study, the researcher concludes that the problems identified here are more or less all over Bangladesh and tried to solve the respective problem. Finally, the researcher wants to conclude that the concerned authorities will take the necessary steps to solve the problems of practical matters of the technical and vocational institutes in Bangladesh.*

KEYWORDS: problems, vocational and technical education, insufficient, practical apparatus

INTRODUCTION

Science is the name known to the systematic, systematic study of all things that can be observed, tested and verified in the physical world. Vocational Education (VE) also called career and Technical Education (TE) prepares learners for jobs that are based in practical activities, traditionally non-academic and totally related to a definite trade, occupation or profession, for this reason the expression, in which the student participates.

According to the Ministry of Education, Department of Technical Education and Technical Education Board in 2016, the rate of technical students in the country is only 14 percent. The target is to do 30 percent in 2030. However, in reality, definition of international technical education and the analysis of data from the Bangladesh Bureau of Education Information and Statistics (BANBEIS) show that it is basically 8.44 percent. Education is a basic human right and it is considered by many as a key implement for national development. It is emphasized that the relationship between vocational education and development is established directly in developing countries and that vocational education has an important place in overcoming youth unemployment and industrial development (Ziderman, 1997). The technical and vocational education system provides courses related to various applied and practical areas of science, technology and engineering, or focuses on a specific specialized area. Teaching can be considered as arrangement of information and environment in order to realize the learning. Environment means not only place of education but also the transfer of knowledge and methods, tools; and materials that are used in guiding the studying of students (Gelişli, 2007).

The importance of this study reflects the role that competitive, technological and educational development has played in the development of society with various industrial, economic and social developments to deal with various industrial, economic and social developments. Rapid changes and developments in science and technology in recent years have affected vocational education institutions, labour markets and students (Güngöri, 2020). Technology is a necessary consequence of science in human society. There is no alternate for technical and vocational education in order to build a country efficiently in competition with the developed countries of the world and to make the country economically prosperous. The concept of having a profession through training and performing the profession in the best way affects the lives of people and society. It is clear that the vocational and technical training has an important role in the lives of people and society (Kazu, 2002).

Technical and vocational education focuses on the acquisition of appropriate skills as educational tools to adapt to the real work situation of the individual and to contribute to the development of the society. Technical and vocational education is necessary to evaluate students' abilities and interests, program content, teaching materials and teacher training and employment conditions to determine the relationship between industry and education (Olkun, 1999). It aims to educate and train individuals as a qualified workforce for employment in industry, trade and service sectors, and to provide basic education necessary for transition to higher education institutions that continue their profession (Esme, 2007).

It trains students for careers in technical fields and helps to improve and give a hand in the specific skills of the industry required for professional excellence. The learners cannot work in tandem with other countries in the world to provide education to the students without proper practical equipment. For the development of the country, education should be provided in technical and vocational institutions through necessary equipment. So, to make the learners of technical and vocational institutions of our country into man power this study is extremely important.

Technical and vocational education means hands-on education. The rationale of technical and vocational education is to prepare people to work as technologists. The purpose of vocational and technical training is to provide the individual to enter a job in the business and to gain basic behaviors in order to improve (Sezgin, 2000).

The following hypotheses were formulated

i) If students were given theoretical classes as well as practical classes in vocational and technical institutions, they would have benefited from their careers. But the lack of hands-on education in the institutions is hampering the class which is a major obstacle for the development of Bangladesh.

ii) Due to lack of adequate practical equipment in vocational and technical institutions, practical classes are not held and students are reluctant to take hands-on education, which is a major obstacle for the development of Bangladesh.

iii) Due to incomplete practical classes in technical and vocational institutions, students cannot become the manpower of the future, which is a major obstacle for the development of Bangladesh.

iv) Teachers are not able to complete the practical course as they cannot conduct regular classes due to lack of practical equipment in vocational and technical institutions. As a result, students lag behind in appropriate practical education which is a major obstacle for the development of Bangladesh.

It has been observed that although science and technology are bed rock, students renounce from practical education. It shows the negative attitude and poor performance of technical and vocational students in Bangladesh. It is hoped that after the launch of this research, it will be possible to find out the problems that arise in conducting practical classes in technical and vocational institutes, especially due to lack of practical equipment. At the same time, taking into account the problems and considering the recommendations of this study, it may be easier to take the necessary steps so that practical classes in technical and vocational institutions can be fruitful which will greatly benefit students in their careers.

Statement of the Problem

In technical and vocational education teaching style is not dynamic form which student can easily learn. The educational qualifications of the teachers are very poor and they are not professional in their duties.

Since technical and vocational education means hands-on learning, so every institution needs hand-on learning materials. Most of the institutions in Bangladesh do not have laboratories but some of them are small in size. There are not the required number of practical apparatus, although some equipment is old or worn out which is unsuitable for use. As a result, many students are not able to keep up with the modern equipment in the workplace at home and aboard. Therefore, it is not possible to supply skilled workers from Bangladesh in the world. Some people go aboard but they go there first to learn the job and those who come from other countries learn the job. Due to which their salary is more than double the salary of the people of our country. Many students of technical and vocational institutions said, technical and vocational education is not viewed with an advanced eye. As a result, many are falling behind. The machines in

these institutions are very low quality and not modern. It would not be a mistake to say that the certificates obtained from these institutions were bought with money.

There are many reasons to be uninterested in technical and vocational education in Bangladesh. One of them is to study in HSC for two years after passing SSC. And the diploma course has to be completed in four years. At the same time, students are losing interest due to lack of opportunities for higher education in the government. There are many crises of government universities in our country. There is only one Dhaka University of Engineering and Technology (DUET). Although there are many opportunities to study in private universities, it is not possible for most of them due to financial reasons.

Objectives of the Study

The general objective is to find out the problems of insufficient practical equipment in technical and vocational education in Bangladesh.

The special objectives of this study are-

i) To identify the main problem of insufficient equipment and facilities for practical classes in technical and vocational education in Bangladesh.

ii) To find out the problem of students facing in fruitless practical classes in technical and vocational education in Bangladesh.

iii) To identify weakness of empirical experience among the students of technical and vocational education in Bangladesh.

iv) To clarify the practical inability of the learners in their professional dealings.

v) To recommend the necessary steps that can be taken by the government to solve the practical problems of technical and vocational education in Bangladesh.

Significance of the Study

i) Technical and vocational education prepares a person for highly economic and civic opportunities.

ii) This category of education is the best technique to get a complete education for facing the real life in any country.

iii) It can convene the needs of life in a practical, efficient and superior way.

iv) This creates an opportunity for self-employment.

v) It helps to make a person proficient in a particular especially practical profession.

vi) It provides ample opportunity for students to choose the appropriate type of education based on their interests, skills and abilities.

vii) Technical and vocational education facilitates the creation of skilled manpower or technical personnel at the whole society.

viii) It is essential for manufacturing as well as national productivity (GNP) and economic growth of the country.

LITERATURE REVIEW

Numerous mechanisms have been completed and are continuously being done in the perspectives of technical and vocational education in Bangladesh from which the following significant references are potentially cited:

This article has revealed that the curriculum for vocational training is not integrated with other aspects of the Kuwaiti educational system. To this end, it is suggested that the curriculum be revised to build in necessary elements to ensure the development of local capabilities. Efforts should also be made to encourage more females to enrol in technical preparation institutes and to develop their skills. There is a need to link vocational and technical schools with industry, and with research and development centres. In this way, their practical and analytical skills, all things being equal, will be fully developed to meet the demand for much needed local skills. Unless such institutions are improved, the country will continue to depend extensively on foreign manpower for years ahead (Al-Ali, 2006)

The study revealed that inadequate supply of instructional materials, large class sizes, inadequate training facilities, weak linkages with local industries for hands-on-experience for both instructors and trainees lead to ineffective and inefficient training of students while emphasis is placed on passing final examination. This inadequacy in preparation for the job market brought workplace challenges to the graduates. Recommendations made are for stakeholders to complement the government's effort in the provision of training resources; students to be encouraged to purchase their own basic tools with girls given special packages; the institution of effective industrial attachment schemes that will enable students to identify and gain practical knowledge required for the workplace through hands-on experience in local organizations, improvement in instructional quality through instructor training initiatives through pre-service and in-service modes, and the introduction of a tool-acquisition scheme to assist students purchase and own basic tools (DASMANI1, 2011)

This paper examines the challenges of integrating ICT into (VET) instructional practices and the barriers confronting implementation. Hence the need for compatible computer education policies, suggestions to integrate ICT into (VET) teaching and learning practices are provided to assist the teachers to the use of computers in order to help the students acquire theoretical knowledge, grounded in real practice. It is the contention of this paper that though creating an ICT environment for teaching and learning in Nigeria may seem difficult, it would enhance students' achievement in vocational education and training (VET), hence the thrust of this paper (Nkasiobi Silas Oguzor1, 2011)

This paper attempts to explore the present scenario of Vocational Education and Training in Bangladesh and in Islamic University of Technology (IUT) highlighting their work and achievement and the immediate transfer of skills in the work setting as well as a set of recommendations that may play a major role in modernizing the VET in Bangladesh in general and in IUT in particular. **(**Ibrahim Elsayed Elbushari, 2012)
The aims of the article were to explain the essential roles of TVET for human resource development (HRD) and to explore the inherent problems associated in TVET programs in Bangladesh. The article has addressed four roles of TVET for HRD (i) Socio-economic development, (ii) Global Competitiveness, (iii) Career mobility, and (iv) Flexibility in Qualifications Recognition. The common problems of TVET program have been identified with some literature review and documents analysis; the categories

of those problems were (i) Engaging community and industry in TVET, (ii) Financial difficulties, (iii) TVET students to pursue higher education, (iv) Relevance to the labour market and traineeships, (v) Difficulties faced by TVET teachers, and (vi) Some emerging problems of TVET. The expected outcomes of the articles were to consider the problems of TVET program to improve its quality. The researchers suggest the TVET professionals to take some initiatives to overcome the problems of TVET for HRD of the country (Mohammad Mahbubur Rahman*1, 2013)

The findings of this study have shown that, there is "inadequate number of teachers" and "less number of competent technical Teachers/Instructors" in the training institutions. It also revealed that, "the lacks of in-service programme for Technical Teachers to upgrade their skills deteriorate problem." And there is "Poor salaries and incentives for Technical Teachers" in technical and vocational schools in Nigeria. (Isah Usman, 2013)
This study aimed to identify issues and problems in the current development of vocational education in China, the study found that vocational education is currently considered at the best stages of development in history. The study also discussed many of the challenges and problems of the different dimensions of vocational education in China during its development, such as quantity at the expense of quality, development goals, lifelong vocational education system, and the establishment of model institutions. (Shi, 2013)

This study aimed to identify the issues and challenges facing technical and vocational education in Nigeria. From the point of view of a national group of skills, self-sufficiency, craftsmen and technicians in the fields of technical and vocational education. In Nigeria, From their point of view, the study found many challenges and problems, such as school curricula and lack of harmony with the labour market. Lack of motivation for teachers, insufficient facilities and funding, and the migration of minds, bad training staff, venality and corruption (Arimonu, 2016)

There was a incorporeal effect on the size of problems and obstacles, indicating that the use of educational curricula is comprehensive enough to enrol and develop vocational schools And to encourage the family there children's to join through explanation and presentation and to give instructions, and the use of educational means, both in the applied courses or using the methodology of mental training video watching as well as mental perception accompanied by watching the video, It is desirable to increase support and coordination among ministries and the private sector for vocational and technical education. (Omar jaser AL-hussainat, 2018)

From the above literature review and citation, it is obvious that most of the researchers have done about the problems and solutions of the vocational and technical education system. None of them mentioned the insufficiency of practical materials especially in the vocational and technical education system. Thus, the author of the research work eagerly intended to conduct his research on the title "Problems of Insufficient Practical Equipment: A study through Technical and Vocational Education in Bangladesh."

RESEARCH METHODOLOGY

In this study, the researcher preferably used the quantitative or somehow mixed method. In this research, qualitative method is used to find out the main objectives and some questionnaires are used for collecting information from the head of the selected institutions, the professional teachers and students of same institutions in Sirajganj of Bangladesh.

For the purpose of this research work the primary and secondary data were collected to get authentic result. The necessary data for this study have been collected from primary source. The primary data have been collected from 20 technical and vocational institutes through some questionnaires and the secondary data have been raised from books, magazines, journals articles, newspaper reports etc.

After collecting data and information from the study area through questionnaire and interview these have been carefully reviewed, tabulated, and analysed. After collecting data, it has been presented and analysed by using the program of MS word, MS Excel. APA standard was followed in citation. All collected data was expressed in percentage.

Participants and settings:
There are many technical and vocational institutes in all the districts of Bangladesh and they are facing many problems such as inadequate practical equipment. But the study was conducted only in a few Upazila of Sirajganj district of Bangladesh. Due to some limited time and budget, it was not possible for researchers to collect data from all over the country. Sirajganj district has been selected for the research study. To complete this study, the data were collected through a survey carried out from 20 head of the technical and vocational institutions, 40 teachers, 200 students and 10 guardians in Sirajganj district, Bangladesh.

The students who have participated in the survey were the students of different technical and vocational institutes. The study was conducted in twenty educational institutions located at Sirajganj district of Bangladesh. The teachers who have participated in the survey are the teachers of technical and vocational educational institutions in Sirajganj district of Bangladesh and they have completed their graduation and post-graduation. Their teaching experience varies from 5 to 12 years. The questionnaires were designed in English and the survey was conducted face to face among the participants. The survey was conducted face to face among the participants where four sets of questionnaires were provided to them to make the answer within 15-20 minutes. The study was conducted among the following technical and vocational institutions:

Upazila	S/N	EIIN	Institute Name
Tarash	01	132919	Bastul Technical and Business Management College
	02	133002	J I Technical and Business Management College
	03	133068	Jafar Iqbal Technical High School
	04	135156	Kaurail Ishaque Tafer Ali Technical College
	05	128514	Tarash Fazil Madrasha
Royganj	06	135533	Nimgachi Ideal BM College
	07	132532	Arandaha Technical Institute
	08	135532	Doybogganti SK Model Technical School & College
	09	128247	Muradpur Islamia Fazil Madrasha
	10	128259	Kuterganti Dakhil Madrasha
Ullapara	11	132568	Nandakusha Technical & Management College
	12	134791	Modhupur Saptagram Technical School
	13	132585	Protap Technical & Business Management College
	14	128620	Koyra Fazil Madrasha
	15	128615	Ullapara Kamil Madrasha
Sirajganj Sadar	16	132503	BSD Shahid Muktijodha Technical High School
	17	132671	Bahuka Technical High School
	18	132835	Sirajganj Technical School & College
	19	132652	Bagbati Technical & Business Management College
	20	128441	Moazzem Hossain Mia Dakhil Madrasha

Education

The word education comes from the Latin word Educatum which means ´The act of training´. Education is a behavioural change and a process where learning benefits or knowledge, skills, values, beliefs and habits can be acquired. The educational process encourages the full development of a person's inherent qualities and helps him to acquire the skills he needs to become a productive member of society. Education is the acquisition of knowledge or skills in the general sense. In a broad sense, education is the process of gaining systematic knowledge.

Vocational education

This is the kind of formal education that includes educational preparation, behavioural guidance, skills acquisition and professional ability, which are carried out by regular institutions for the secondary level, in which the preparation of skilled workers in various fields and professional disciplines entrusted to them is usually three years and for the age groups that reached 15 years And more (Abdel Wahab, 1985: p. 20) (Omar jaser AL-hussainat, Problems of Vocational and Technical Education in Jordanian Society from the Point of View of Professional Teachers, 2018) .

Technical education

UNESCO has defined this type of formal education, which includes educational preparation and imparting the skills and professional knowledge of regular educational institutions in various industrial, agricultural, health and commercial fields, with the capacity to implement and produce (Abu Snabel, 1998: p. 17). (Omar jaser AL-hussainat, Problems of Vocational and Technical Education in Jordanian Society from the Point of View of Professional Teachers, 2018) The word technical means related to the efficiency of the industrial system. Technical education is the education by which students are given scientific training in the use of industrial, commercial, agricultural and industrial equipment.

Practical Apparatus

A laboratory is a workplace planned for the purpose of conducting scientific research, experiments, or performing a variety of measurements. Laboratory equipment is the most common utensils and equipment needed to perform laboratory activities. Practical apparatus is a group or combination of instruments, machines, tools, materials, etc., having a particular purpose or intended for a specific use.

Courses of Technical and Vocational Education in Secondary Level in Bangladesh

There are many subjects of technical and vocational education in secondary level having the courses of SSC Vocational Education and mark distributions.

Courses of class 9 of SSC Vocational Education and mark distributions in Bangladesh, 2017
(Sources of BTEB & effective from 2017)

No.	Subject		Subject code	Mark distributions				Total
				Theory		Practical		
				TC	TF	PC	PF	
1	Bangla-1		1911	40	60	0	0	100
2	English-1		1912	40	60	0	0	100
3	Mathematics-1		1913	40	60	0	0	100
4	Religion and moral education-1		1211-4	20	30	0	0	50
5	Physical education, health sciences and sports-1		1919	0	0	25	25	50
6	Bangladesh and world identity-1		1914	40	60	0	0	100
7	Physics-1 (*1)		1915	20	30	12	13	75
8	Chemistry-1 (*1)		1916	20	30	12	13	75
9	Computer application-1		1917	0	0	25	25	50
10	Engineering drawing		1918	0	0	25	25	50
Total marks of required subjects				**220**	**330**	**99**	**101**	**750**
11	Trade-1 (First paper)		**13	40	60	50	50	200
12	Trade-2 (First paper)		**14	40	60	50	50	200
13	Industrial factories and practical training (6 week)		**81	0	0	0	50	50
Total marks				**300**	**450**	**199**	**251**	**1200**
14	Optional subject	Higher mathematics-1 (*2)	1311	30	45	12	13	100
		Accounting-1	1312	40	60	0	0	
		Geography and environment -1	1313	40	60	0	0	
		Agriculture-1 (*3)	1314	30	45	12	13	
Total marks (with optional subject)								**1300**

Table- 1: Mark distributions of class nine

The above table shows that the mark distributions of SSC Vocational Education of class nine in Bangladesh. Among the total marks of class nine 1300, 475 marks are practical and it is calculated that about 36% is practical number. Therefore, it is essential for every institution to have equipment to provide high-quality practical teaching to the students.

Courses of class 10 of SSC Vocational Education and mark distributions in Bangladesh, 2017
(Sources of BTEB & effective from 2017)

No.	Subject		Subject code	Mark distributions				Total
				Theory		Practical		
				TC	TF	PC	PF	
1	Bangla-2		1921	40	60	0	0	100
2	English-2		1922	40	60	0	0	100
3	Mathematics-2		1923	40	60	0	0	100
4	Religion and moral education-2		1221-4	20	30	0	0	50
5	Physical education, health sciences and sports-2		1929	0	0	25	25	50
6	Bangladesh and world identity-2		1924	40	60	0	0	100
7	Physics-2 (*1)		1925	20	30	12	13	75
8	Chemistry-2 (*1)		1926	20	30	12	13	75
9	Computer application-2		1927	0	0	25	25	50
10	Self-employment and business ventures		1928	20	30	0	0	50
Total marks of required subjects				**220**	**330**	**99**	**101**	**750**
11	Trade-1 (Second paper)		**23	40	60	50	50	200
12	Trade-2 (Second paper)		**44	40	60	50	50	200
13	Industrial factories and practical training (6 week)		**82	0	0	0	50	50
Total marks				**300**	**450**	**199**	**251**	**1200**
14	Optional subject	Higher mathematics-2 (*2)	1321	30	45	12	13	100
		Accounting-2	1322	40	60	0	0	
		Geography and environment -2	1323	40	60	0	0	
		Agriculture-2 (*3)	1324	30	45	12	13	
Total marks (with optional subject)								**1300**

Table- 2: Mark distributions of class ten

This table is the information of the mark distributions of SSC Vocational Education of class10 in Bangladesh. The total marks of class nine are 1300 among them 475 marks are practical and it is calculated that about 36% is practical number. Therefore, it is very important for every institution to have apparatus for imparting hands-on practical education to the students.

Courses of class 9 of Dakhil Vocational Education and mark distributions in Bangladesh, 2017
(Sources of BTEB & effective from 2017)

No.	Subject		Subject code	Marks distribution				Total
				Theory		Practical		
				TC	TF	PC	PF	
1	Bangla-1		1711	40	60	0	0	100
2	Arabic-1		1714	40	60	0	0	100
3	Quran Majid and Tajweed-1		1717	40	60	0	0	100
4	Hadith Sharif and Fiqh-1		1718	40	60	0	0	100
5	English-1		1912	40	60	0	0	100
6	Mathematics-1		1913	40	60	0	0	100
7	Physics-1		1915	20	30	12	13	75
8	Chemistry-1		1916	20	30	12	13	75
9	Computer application-1		1917	0	0	25	25	50
10	Engineering drawing		1918	0	0	25	25	50
Total marks of required subjects				**280**	**420**	**74**	**76**	**850**
11	Trade-1 (First paper)		**13	40	60	50	50	200
12	Trade-2 (First paper)		**14	40	60	50	50	200
13	Industrial factories and practical training (6 week)		**81	0	0	0	50	50
Total marks				**360**	**540**	**174**	**226**	**1300**
14	Optional subject	Higher mathematics-1 (*2)	1311	30	45	12	13	100
		Agriculture-1 (*2)	1314	30	45	12	13	
		Islamic History-1	1315	40	60	0	0	
		Bangladesh and world identity-1	1316	40	60	0	0	
Total marks (with optional subject)								**1400**

Table- 3: Mark distributions of class nine

The above table indicates that the mark distributions of Dakhil Vocational Education of class nine in Bangladesh. The total marks of class nine are 1400 among them 425 marks are practical and it is calculated that about 30% is practical number. Therefore, intended for the progress of our country, the students have to be developed as skilled

and it is essential that every institution has the necessary equipment to impart practical education.

Courses of class 10 of Dakhil Vocational Education and mark distributions in Bangladesh, 2017
(Sources of BTEB & effective from 2017)

No.	Subject		Subject code	Marks distribution				Total
				Theory		Practical		
				TC	TF	PC	PF	
1	Bangla-2		1721	40	60	0	0	100
2	Arabic-2		1724	40	60	0	0	100
3	Quran Majid and Tajweed-2		1727	40	60	0	0	100
4	Hadith Sharif and Fiqh-2		1728	40	60	0	0	100
5	English-2		1922	40	60	0	0	100
6	Mathematics-2		1923	40	60	0	0	100
7	Physics-2		1925	20	30	12	13	75
8	Chemistry-2		1926	20	30	12	13	75
9	Computer application-2		1927	0	0	25	25	50
10	Self-employment and business ventures		1928	20	30	0	0	50
Total marks of required subjects				**300**	**450**	**49**	**51**	**850**
11	Trade-1 (Second paper)		**23	40	60	50	50	200
12	Trade-2 (Second paper)		**24	40	60	50	50	200
13	Industrial factories and practical training (6 week)		**82	0	0	0	50	50
Total marks				**380**	**570**	**149**	**201**	**1300**
14	Optional subject	Higher mathematics-2 (*2)	1321	30	45	12	13	100
		Agriculture-2 (*2)	1324	30	45	12	13	
		Islamic History-2	1325	40	60	0	0	
		Bangladesh and world identity-2	1326	40	60	0	0	
Total marks (with optional subject)								**1400**

Table- 4: Mark distributions of class ten

Table- 4 implies that the mark distributions of class 10 of Dakhil Vocational Education in Bangladesh. The total marks of class ten are 1400 elsewhere of which 375 marks are practical and it is calculated that about 29% is practical number. Therefore, future for the progress of our country, the students have to be developed as skilled and it is essential that every institution has the required tools to inform practical education.

Courses of first year of HSC (BM) Business Management Education and mark distributions in Bangladesh, 2013
(Sources of BTEB & effective from 2013)

No.	Subject	Subject code	Marks distribution				Total
			Theory		Practical		
			TC	TF	PC	PF	
1	Bangla-1	1811	40	60	0	0	100
2	English-1	1812	40	60	0	0	100
3	Computer Office Application-1	1813	20	30	25	25	100
4	Business Mathematics & Statistics-1	1814	30	45	12	13	100
5	Principles of Accounting & Application-1	1815	30	45	12	13	100
6	Economics & Commercial Geography-1	1816	40	60	0	0	100
7	Business Organization & Management-1	1817	40	60	0	0	100
8	Principles of Marketing-1	1818	40	60	0	0	100
Total marks of required subjects			**280**	**420**	**49**	**51**	**800**
Electoral subject-1 & Optional subject-1							
9	Computer Programming	2318	40	60	50	50	400
	Secretarial Sciences	2518	40	60	50	50	
	Production planning, Control & Costing	2118	60	90	25	25	
	Finance, Banking & Insurance	2218	60	90	25	25	
	Entrepreneurship	2418	60	90	25	25	
10	Industrial Factories &Practical Training (4 week)	**81				100	100
Total marks							**1300**

Table-5: Mark distributions of HSC (BM) first year

In the above table- 5, it is clear that the mark distributions of first year HSC (BM) Business Management Education in Bangladesh. The total marks of first year are 1300 out of which 400 or 350 marks are practical and it is calculated that about 31% or 27% is practical number. Therefore, for the progress of our country, the students have to be developed as skilled and it is essential that every institution has the necessary equipment to impart practical education.

Courses of second year of HSC (BM) Business Management Education and mark distributions in Bangladesh, 2013
(Sources of BTEB & effective from 2013)

No.	Subject	Subject code	Marks distribution				Total
			Theory		Practical		
			TC	TF	PC	PF	
1	Bangla-2	1821	40	60	0	0	100
2	English-2	1822	40	60	0	0	100
3	Computer Office Application-2	1823	20	30	25	25	100
4	Business English & Communication-2	1824	30	45	12	13	100
5	Principles of Accounting & Application-2	1825	40	60	0	0	100
6	Office Management-2	1826	30	45	12	13	100
7	Business Organization & Management-2	1827	40	60	0	0	100
8	Principles of Marketing-2	1828	40	60	0	0	100
				420	**49**	**51**	**800**
Electoral subject-1 & Optional subject-1							
9	Database Management System	2328	40	60	50	50	400
	Life Skill Development	2528	40	60	50	50	
	Higher Accounting	2128	60	90	25	25	
	Banking Accounting	2228	60	90	25	25	
	Small Business Management	2428	60	90	25	25	
10	Industrial Factories & Practical Training (4 week)	**82				100	100
Total marks							**1300**

Table- 6: Mark distributions of HSC (BM) second year

The above table indicates the mark distributions of HSC (BM) Business Management Education of second year in Bangladesh. The total marks of second year are 1300 out of which 400/350 marks are practical and it is calculated that about 31% or 27% is practical number. Therefore, for the development of our country, the students have to be developed as expert and it is crucial that every institution has the necessary equipment to impart practical teaching.

IX. Data collection and Analysis:

This part will present and analyse the collected research data. The results of the questionnaires of head of institutions will be presented at first, secondly teachers' and followed by the students' questionnaire data.

Questionnaires of head of the institutions:

1. Do you think practical classes are important for every practical subject with theoretical classes?

No. of Participants	Response No.				
	Very Important	Important	Moderately Important	Slightly Important	Unimportant
20	16	4	0	0	0

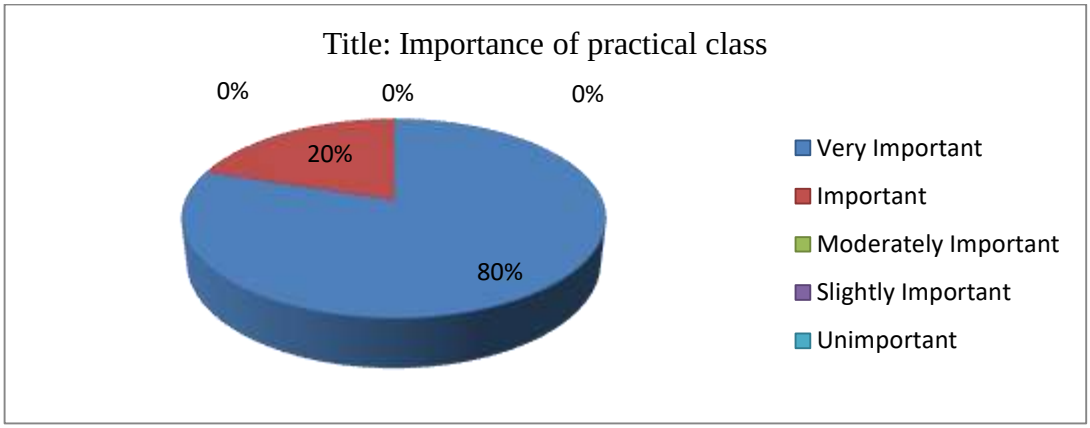

Figure- 1: Importance of practical class

In this study 20 participants were selected from different technical and vocational institute to find out the accurate result. According to the statistics of figure- 1 it is observed that 80% head of the institutions think that practical classes are very important for every practical subject with theoretical classes, 20.0% head of the institutions think that it is important. On the contrary, the others think 0%. Most of the participants admitted that practical classes are very important for every practical subject with theoretical classes.

Question	No. of Participants	Response No.		
		Yes	No	Not sure
2. Does your institute have sufficient practical equipment?	20	0	20	0

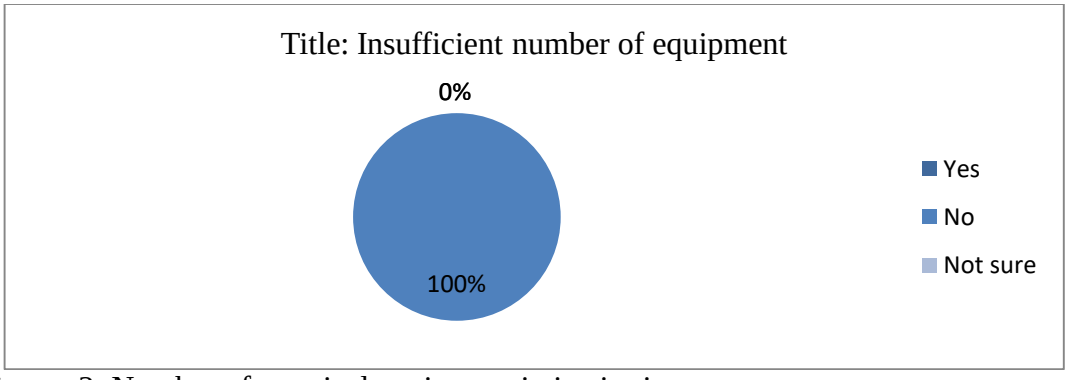

Figure- 2: Number of practical equipment in institution

In this study 20 participants (head of the institutions) were selected from different technical and vocational institutes to find out the authentic result. Here 100 % participants agreed that their institutes have no sufficient practical equipment for teaching practical classes. From the above observation, it is clear that maximum institutions have no sufficient practical equipment.

3. Are the practical classes held available in your institution?

No. of Participants	Response No.	
	Yes	No
20	2	18

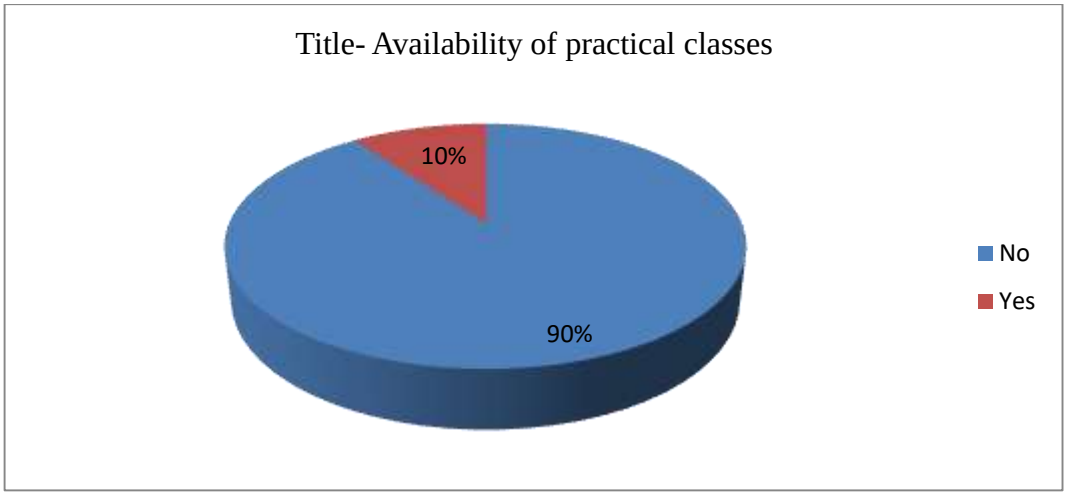

Figure- 3: Availability of practical classes

It is clear by figure- 3 that 90% participants said that practical classes are not held in their institute. On the contrary, only 10% participants said that practical classes are held in their institute. Here, it can be said that maximum participants consider that practical classes are not held in their institute.

Question	No. of Participants	Response No.	
		Yes	No
4. Do you think that students will benefit in their working life if they are given practical classes along with theoretical lessons?	20	20	0

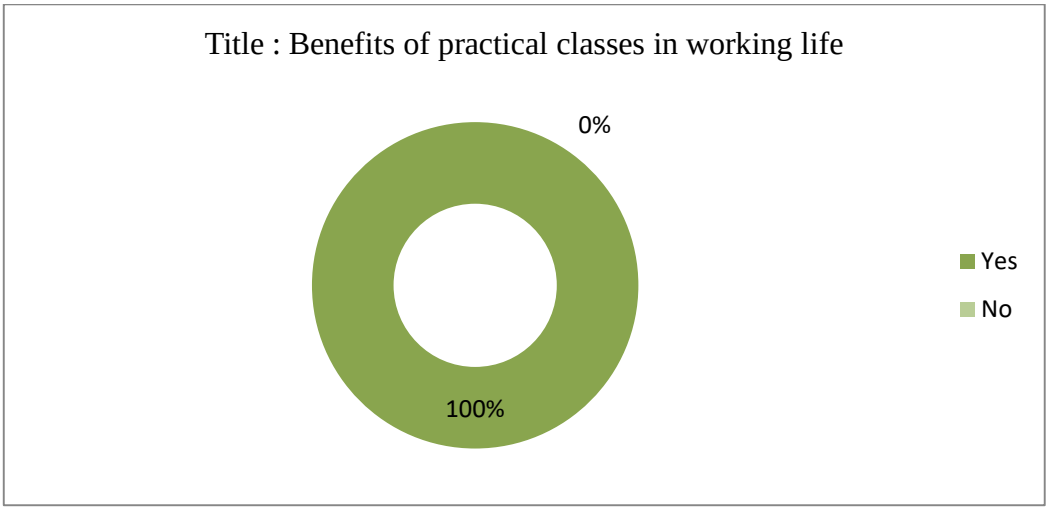

Figure- 4: Benefits of practical classes

Figure- 4 explored that 100% participants think that students will benefit in their working life if they are given practical classes along with theoretical lessons. On the contrary, 0% participants think that students will not benefit in their working life if they are given practical classes along with theoretical lessons. Here, it can be said that majority participants consider that students will benefit in their working life if they are given practical classes along with theoretical lessons.

Question	No. of Participants	Response No.		
		Yes	No	Not sure
5. Do you think technical and vocational education needs to learn hand-in-hand for further development of Bangladesh?	20	19	0	1

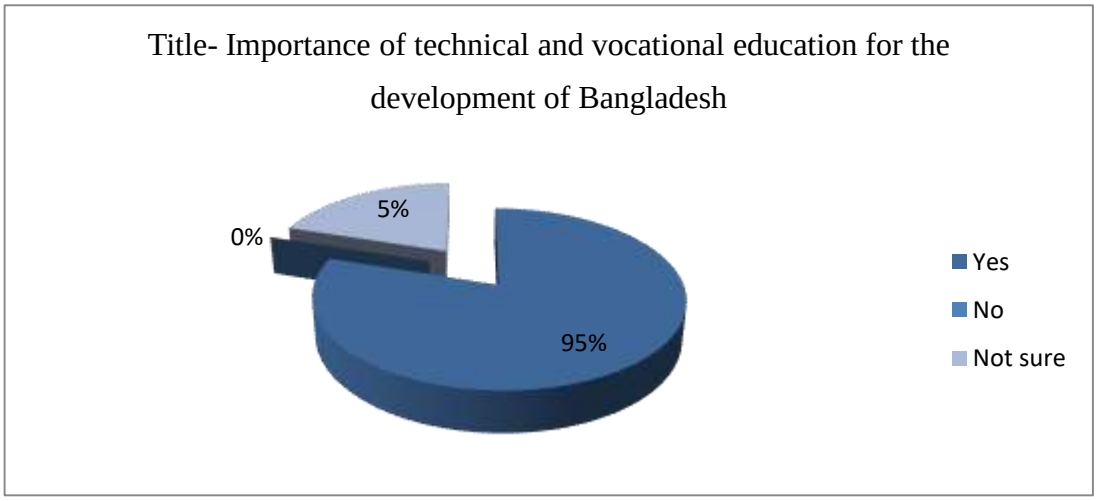

Figure- 5: Importance of technical and vocational education

Figure- 5 clearly shows that 95% participants think that technical and vocational education needs to learn hand-in-hand for further development of Bangladesh. Besides,

only 5% participants are not sure whether technical and vocational education needs to learn hand-in-hand for further development of Bangladesh. It implies that technical and vocational education needs to learn hand-in-hand for further development of Bangladesh.

Questionnaire for the Teachers:

1. Do you think that students will not be benefited in their working life if they are not given practical classes appropriately?

No. of Participants	Response No.		
	Yes	No	Not sure
40	36	2	2

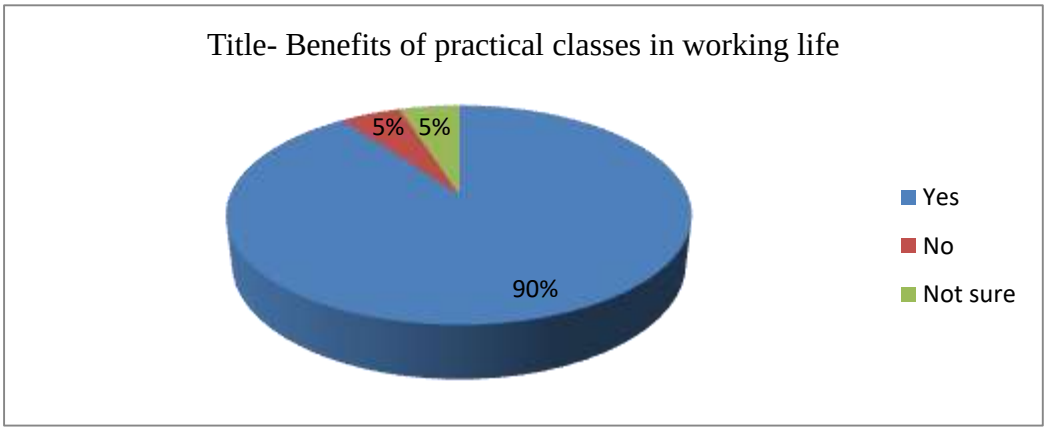

Figure- 6: Benefits of practical classes in working life

Figure- 6 clearly shows that 90% participants think that students will not be benefited in their working life if they are not given practical classes along with theoretical lessons. 5% participants think that students will be benefited in their working life if they are not given practical classes along with theoretical lessons. Besides 5% participants are not sure whether students will not be benefited in their working life if they are not given practical classes along with theoretical classes. It implies that, most of the participants feel that students will not be benefited in their working life if they are not given practical classes along with theoretical classes.

2. Do you think you can conduct your practical classes with required practical equipment accordingly?

No. of Participants	Response No.		
	Yes	No	Not sure
40	2	38	0

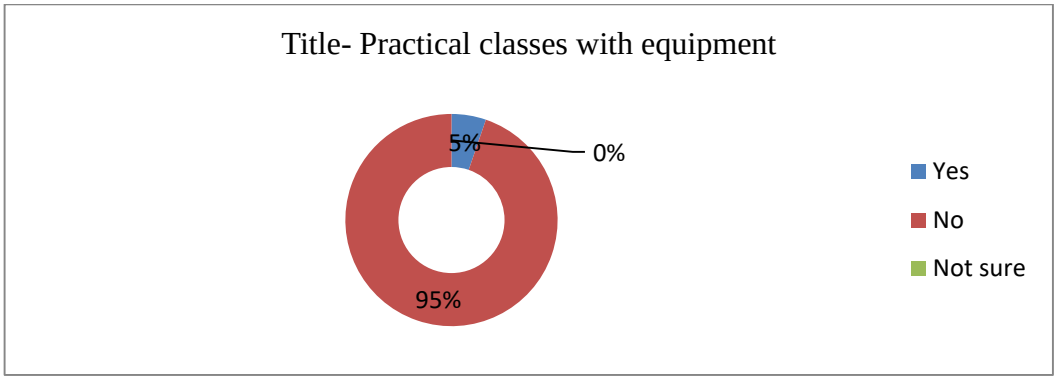

Figure- 7: Practical classes with equipment

In this study 40 teachers were preferred from different technical and vocational institute to find out the perfect result. Figure- 7 shows that only 5% participants said that their institute have sufficient equipment to provide practical education. On the contrary, 95% participants supposed that their institute have no sufficient equipment to provide practical education.

3. Do you feel expected response from your students in practical classes despite the lack of practical equipment?

No. of Participants	Response No.		
	No Response	Normal Response	Expected Response
40	38	2	0

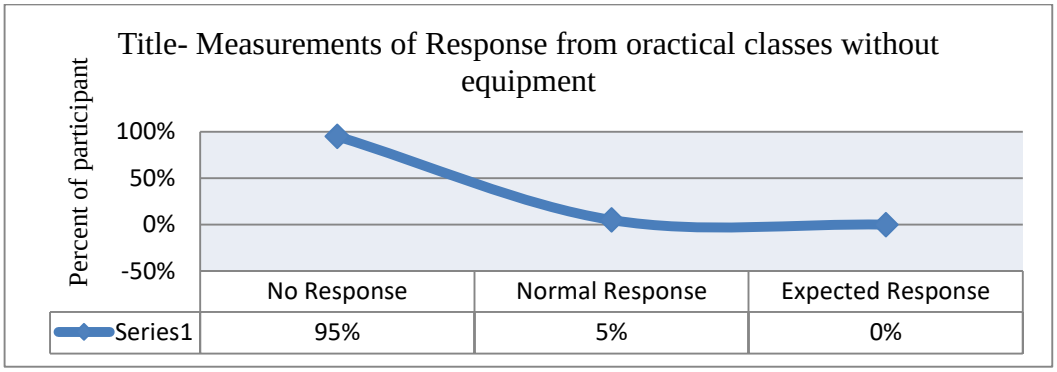

Figure- 8: Measurements of response from practical classes without equipment

By observing figure- 8 it is clear that 95% teachers answer no about the response from students in practical classes despite the lack of practical equipment, 5% normal response and 0% expected response. Here most of the participants agreed that they do not get any response from their students due to lack of practical equipment.

4. What is the environment of practical classes in your organizations?

No. of Participants	Response No.				
	Very Good	Good	Fair	Poor	Very Poor
40	1	2	4	8	25

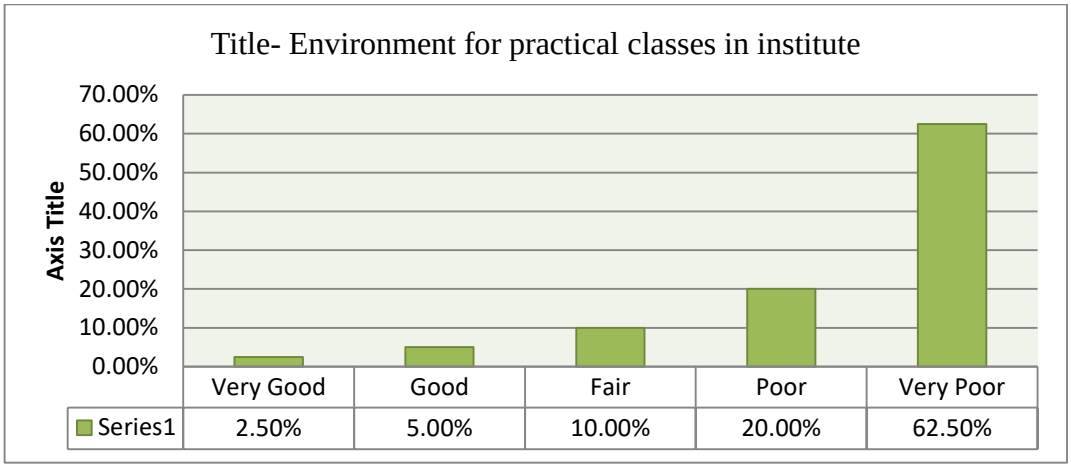

Figure- 9: Environment for practical classes

According to the statistics of figure- 9 it is clear that most of the students agreed that the environments of practical classes are very poor and the percentage of the students agreeing was 62.50. On the contrary 20% students have said that the environments of practical classes are poor. 10 % students have said that the environments of practical classes are fair.5 %students have said that the environments of practical classes are good. 2.5 %students have said that the environments of practical classes are very good.

Questionnaire for the Students:

S/N	Questions	Yes	No
1	Do you think practical equipment are necessary for hands-on learning?	198	2
2	Do your teachers take practical classes regularly?	8	192
3	Will every practical teacher be able to complete the practical course in time?	4	196
4	Is the practical test taken after various periodic tests in the institution?	10	190
5	Do you get practical classes in all subjects from your institution?	8	192

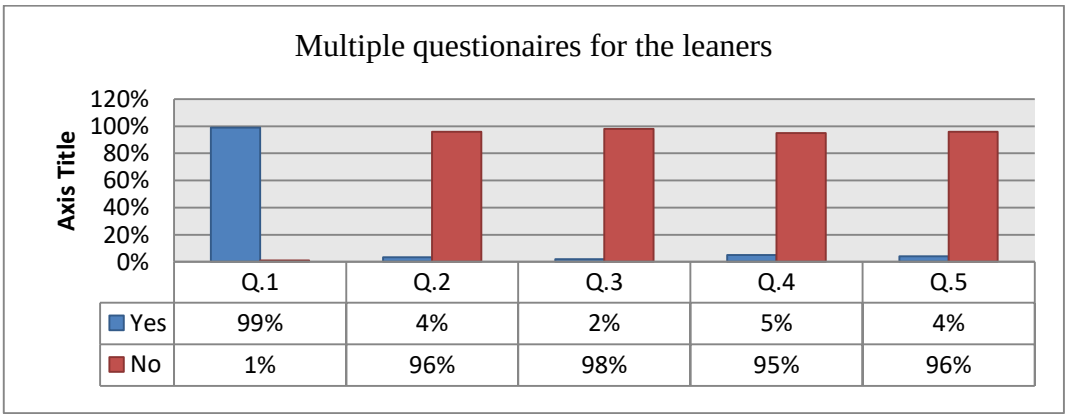

Figure- 10: Multiple questionnaires for the leaners

In this study 200 students were preferred to find out the genuine result. From figure-10, it is observed that 99% students think that practical equipment are necessary for hands-on learning, only 4% students supposed that their teachers take practical classes regularly, merely 2% students said that every practical teacher complete their practical course in time, just 5% of students say that their teachers take practical test after various periodic examinations in the institution, barely 4% students said that they get practical classes in all subjects from their institution. Based on the analysis, it can be concluded that the inadequacy of practical equipment for hands-on education in the technical and vocational education system is one of the obstacles for Bangladesh.

Questionnaire for the Guardians:

1. Do you feel your wards will be turned into the manpower of future Bangladesh owing to imperfect practical classes in their student life?

No. of participants	Response No.			
	Strongly Negative	Negative	Positive	Strongly Positive
10	9	1	0	0

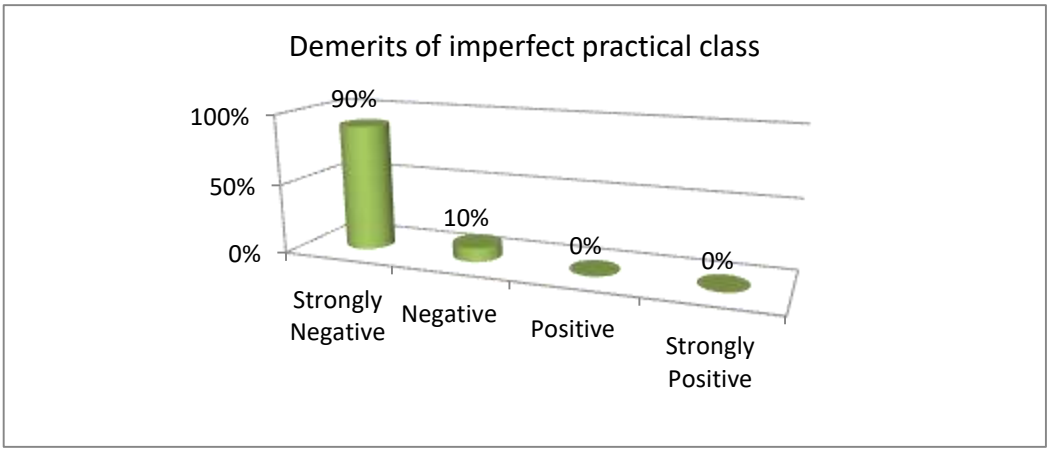

Figure- 11: Demerits of imperfect practical classes

In this study 10 guardians were chosen to find out the accurate result. From figure- 11 it is clear that 90% participants answer strongly negative, 10% negative, 0% positive and 0% strongly positive. So it is obvious that 100% participants answer negative.

2. Do you think the government should take necessary steps to solve the indicated problem in technical and vocational education in Bangladesh?

No. of participants	Response No.			
	Strongly Positive	Positive	Negative	Strongly Negative
10	8	2	0	0

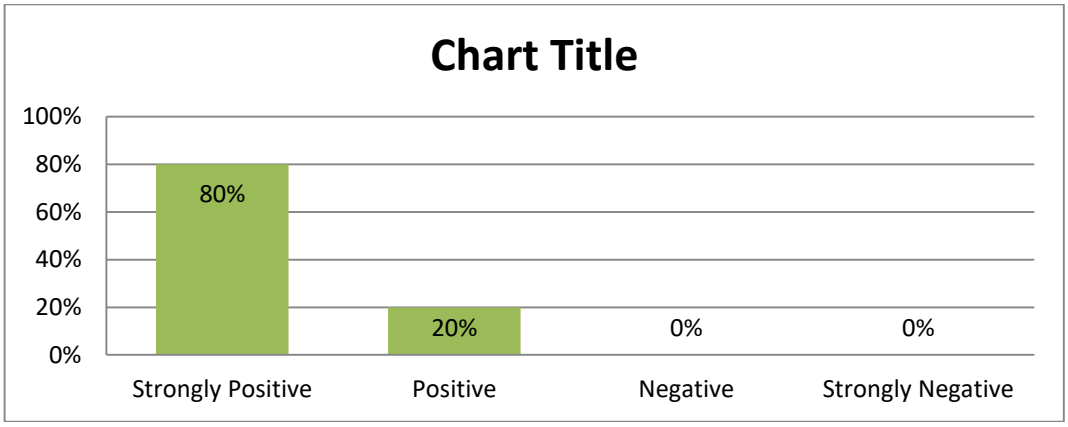

Figure- 12: Governments steps to solve the problem

From figure- 12 it is obvious that 80% participants answer strongly positive, 20% positive, 0% Negative and 0% strongly negative. So, it is clear that 100% participants answer positive.

FINDINGS AND DISCUSSION OF THE STUDY

Interviewing of the head of institutions, teachers, students and guardians, the researcher identified many problems of teaching practical class that should be addressed in order to produce a good croup of teaching practicality in technical and vocational education of Bangladesh. These are the most important findings of the study which sheltered all other trivial findings. The mark distributions of technical and vocational education system show that there are a lot of marks in practical portion in major subjects which are being conducted to the students without teaching them practically.

Most of the head of the institutions think that practical classes are very important for every practical subject with theoretical classes but their institutes have no sufficient practical equipment for teaching practical classes. They think that students will be benefited in their working life if they are given practical classes along with theoretical lessons but practical classes are almost not held in their institutes. Maximum head of the institutions think that technical and vocational education needs to be learnt hand-in-hand for further development of Bangladesh.

Teachers feel that students will not be benefited in their working life if they are not given practical classes along with theoretical lessons. For lack of required practical equipment, teachers do not conduct their practical classes; this is why students do not show response in their classes. Most of the teachers of the study area think that the environment of practical classes is very poor. In this study students prefer that practical equipment is very essential for hands-on learning, but their teachers do not take practical classes regularly. Many institutes are not able to complete the practical courses in time due to lack of practical equipment so that teachers cannot take the practical tests after the various examinations of the institute.

All guardians think that their wards will not become the manpower of future Bangladesh due to incomplete practical classes in student life. For these reasons, they

think that the government should take necessary steps to solve the indicated problem in technical and vocational education in Bangladesh.

Recommendations

From the above findings of the study, it is obvious that the significance of technical and vocational education is not up to the mark in Bangladesh for the restrictions facing this area. Thus, this study demonstrates the following recommendations:

i) Ensuring required equipment in every institution.
ii) Continuing all practical classes with the equipment.
iii) Making the teacher habitual in using the equipment in practical classes.
iv) Involving learners in using the equipment in practical classes.
v) Making the learners face practical problem in real life perspective.
vi) Technical and vocational education needs to provide an effective foundation on which to build.
vii) Development of industrial-educational institution relations, formulation of course curriculum as per the demand of industrial factories.
viii) Education budget should be prepared according to the demand for technical and vocational education.
ix) Public awareness and positive attitude towards technical and vocational education should be created among all classes of people.
x) Improving the quality of technical and vocational education in the standard of international recognition.

CONCLUSION

The researcher started this study with a view to studying the problems of technical and vocational education due to insufficient practical apparatus in Bangladesh. Technical and vocational education is very important in the education system of Bangladesh. Many subjects are taught in technical and vocational education, most of that are practical. After investigation, the researcher has studied the importance of practical class, insufficient practical equipment, availability of practical classes, benefits of practical classes in working life, importance of technical and vocational education for the development of Bangladesh, response from students in practical classes, environment of practical class and so on. The researcher has identified the problems of insufficient practical apparatus in technical and vocational institute. The experiences of the researcher say that the problems acknowledged at this point are more or less alike all over Bangladesh.

Limitations

It may be the limitation and weakness of the study that the data collect was only from 20 institutions of four upazilas of Sirajganj district among them 20 heads, 40 practical subject teachers and 200 students were taken for survey along with 10 guardians from that of Bangladesh. It is a very small scale for research and the researcher cannot claim that even if the views and opinions of all the participants are reflected in this study. Besides, the study was completed in a limited period of time for this reason, it cannot wholly reflect the multifaceted observation of all participants of the whole country. In

this study it is impossible to visit every technical and vocational institute in Bangladesh to collect data that requires extra funds which is one of the limitations for this research.

Future Research

The upcoming research should be conducted specially on definite subject based exclusive practical equipment or on the scientific development of that equipment or on the usage of the equipment properly or on the training to develop practical subject teachers as skilled. Besides, this study used a small sample size of Sirajganj district in Bangladesh; this research results could therefore provide as a launching pad for the future research with a vast sample size of technical and vocational institutes in all parts of Bangladesh.

References:

1. Al-Ali, S. (2006). Technical and Vocational Education in Kuwait. The Vocational Aspect of Education , 45 (1), 15-23.
2. Arimonu, P. R. (2016). Technical and Vocational Education in Nigeria: Issues, Challenges and a Way Forward. Journal of Education and Practice , 7 (3), 113-118.
3. DASMANI1, A. (2011). Challenges facing technical institute graduates in practical skills acquisition in the Upper East Region of Ghana. The Asia-Pacific Journal of Cooperative education (APJCE) , 12 (2), 67-77.
4. Esme, İ. (2007). Current Status and Problems of Vocational and Technical Education. Education Council International Vocational and Technical Education. Ankara.
5. Gelişli, Y. (2007). Using Instructional Technology Perspective Evaluation of Educational Institutions. Journal of Turkish Educational Sciences , 5 (1).
6. Güngöri, G. (2020). PROBLEMS AND SOLUTION SUGGESTIONS ENCOUNTERED IN VOCATIONAL SKILL TRAINING IN VOCATIONAL HIGH SCHOOLS: TEACHERS' VIEWS. European Journal of Education Studies , 7 (4), 233-253.
7. Ibrahim Elsayed Elbushari, M. A. (2012). IDENTIFICATION OF THE PROBLEMS AND PROSPECTS IN VOCATIONAL EDUCATION AND TRAINING (VET) OF BANGLADESH. ASIAN JOURNAL OF MANAGEMENT SCIENCES AND EDUCATION , 1 (1), 76-89.
8. Isah Usman, D. C. (2013). A Study of the Problems for Development of Technical and Vocational Education in Katsina State, Nigeria. IOSR Journal of Engineering (IOSRJEN) , 3 (11), 38-45.
9. Kazu, Y. &. (2002). Developments in Technical and Vocational Secondary Education Institutions. National Journal of Education , 155-156.
10. Mohammad Mahbubur Rahman*1, D. M. (2013). Eradicating Prime Problems of TVET for Ensuring Worth Human Resources in Bangladesh. INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY , 2 (10), 1-8.
11. Nkasiobi Silas Oguzor1, J. A. (2011). Media technology and vocational education. Peer-reviewed & Open access journal , 4 (1), 39-47.
12. Olkun, S. &. (1999). An Assessment of School-to-Work Transition in a Vocational and Technical High School in Ankara,Turkey. American Educational Research Association (AERA), Montreal, Canada. (ERIC No. ED429194).

13. Omar jaser AL-hussainat, H. M.-s.-s. (2018). Problems of Vocational and Technical Education in Jordanian Society from the Point of View of Professional Teachers. British Journal of Humanities and Social Sciences , 20 (1), 29-44.
14. Omar jaser AL-hussainat, H. M.-s.-s. (2018). Problems of Vocational and Technical Education in Jordanian Society from the Point of View of Professional Teachers. British Journal of Humanities and Social Sciences , 20 (1), 29-44.
15. Omar jaser AL-hussainat, H. M.-s.-s. (2018). Problems of Vocational and Technical Education in Jordanian Society from the Point of View of Professional Teachers. British Journal of Humanities and Social Sciences , 20 (1), 29-44.
16. Sezgin, İ. (2000). "Curriculum Development in Vocational and Technical Education". Ankara. Nobel Publishing .
17. Shi, W. (2013). Issues and Problems in the Current Development of Vocational Education in China. Chinese Education & Society , 46 (4), 12-21.
18. Ziderman, A. (1997). National programs in technical and vocational education: Economic and education relationships. Journal of Vocational Education & Training , 49 (3), 351-366.

ABBREVIATION AND ACRONYMS

SSC	:	Secondary School Certificate
HSC	:	Higher Secondary Certificate
TC	:	Theory Continuous
TF	:	Theory Final
PC	:	Practical Continuous
PF	:	Practical Final
BTEB	:	Bangladesh Technical Education Board
BM	:	Business Management
VET	:	Vocational Education and Training
TVET	:	Technical and Vocational Education and Training
HRD	:	Human Resource Development
EIIN	:	Educational Institute Identification Number