

**MASTERS OF SCIENCE IN TECHNICAL EDUCATION
(ELECTRICAL AND ELECTRONICS ENGINEERING)**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**CURRENT STATUS OF TVET PROGRAMS AT TECHNICAL
TRAINING CENTERS (TTC) IN BANGLADESH**

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DECLARATION

This is to certify that the work presented in this thesis is the outcome of investigation carried out by Md. Shahjahan Bhuiyan under the supervision of Dr. Mahbub Hasan at the Department of Technical and Vocational Education (TVE), Islamic University of Technology (IUT), Gazipur, Bangladesh. It is hereby declared that this thesis/report or part of it has not been submitted elsewhere for the award of any Degree or Diploma.

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DEDICATION

Dedicated to my parents

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ABSTRACT

The Technical Training Centers (TTC) in Bangladesh were established to empower the underprivileged community by ensuring their access to TVET programs, particularly in rural areas. Although equitable access to these TVET programs has been prioritized, there is undeniable evidence of a significant and widespread discrepancy in access to TVET. In this context, this study aims to determine what obstacles prevent equal access to TTC's TVET programs. The study also investigated the reasons associated with student unemployment after completing TVET training from TTC Bangladesh. Additionally, it also investigated the impediments to integrate modern technology in the TVET training program provided by TTC. Methodologically, this study followed a qualitative paradigm. Twenty participants were selected purposively from TVET policymakers, administrators, and trainers, and they were agreed to be interviewed provided that their identities were not disclosed. An in-depth semi-structured interview technique was adopted for data collection to explore their perspectives on student enrollment issues in TVET programs offered by TTC. The thematic analysis procedure was used to analyze the interview data. The results obtained based on empirical data show that barriers to training of trainees in TVET institutes are mainly divided into three categories: i) barriers to entry of trainees in TVET training, ii) unemployment of trainees after training iii) barriers to use of modern technology in TVET training. Themes related to students' unemployment, and barriers to the use of modern technology were also identified. The study concludes with an impact for TVET policymakers and administrators that will help ensure better and equal access for all potential students, provide employment at the end of the training or eliminate unemployment, and acquire knowledge of modern technology.

Key Words: Technical Training Center (TTC), Barriers to access, TVET programs, unemployment, modern technology

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CHAPTER 1

INTRODUCTION

1.1 Background and present state of The Study

United Nations Educational, Scientific and Cultural Organization (Blanchfield & Browne, 2013) proposed that TVET involves the acquisition of practical skills, attitudes, understanding, and knowledge related to occupations in various sectors of economic and social life. TVET has long been recognized as a key component of human resource development (HRD) and a vital tool for socio-economic development (Blanchfield & Browne, 2013; Pavlova, 2014). In this context, the Government of Bangladesh has given importance to Technical Vocational Education and Training (TVET) to transform Bangladesh into a middle-income country by 2021 and a developed country by 2041 (Skills & Authority, et al., 2011). In this context, the National Skill Development Authority (NSDA) was formed in 2011 and formulated the National Skills Development Policy (Skills & Authority, et al., 2011). The TVET sector in Bangladesh is yet to be prioritized and has been facing a number of impediments including, skills shortage, skills gap, and skills mismatch, that is, the mismatch between the supply of skills and the demand for skills (Khan, 2019; Raihan & Lock, 2013; Alam, 2008).

The main goal of these training courses is to make them skilled. Scholarships and free training programs are provided to enhance skills (economy, 2021; Ramamurthy et al., 2021). However, student enrolment in TTC from the targeted community is remarkably less than the expected number (M. R. Islam & Chowdhury, 2018). As such, the underpinning objectives of offering training programs through TTC are not achieved. An intensive investigation is required to identify the reasons why the target students are not admitted to the training programs offered by TTC (Haolader, 2012). Hence, the first research question of this study is -

Why do the target students not gaining access to TVET training programs offered by TTC, Bangladesh?

Another objective of TVET training offered by TTC is to reduce the unemployment problems in the society through skill enhancement and entrepreneurship (Skills & Authority, et al., 2011). Underprivileged families accept TVET Training positively as it creates new job opportunities, ensures a handsome salary, as well as social recognition. However, after completion of TVET training students remain unemployed (M. N. Islam, 2008; Ullah, 2021; Obwoye, 2017). The main problem is the lack of institutional planning because there is no compatibility of training modules with the industrial environment (Siddiky & Uh, 2020; Hashim & Hamidon, 2022). To investigate this issue, this study formulated the second research question –

Why do the TVET students remain unemployed after completing TVET training from TTC, Bangladesh?

Institutions lag behind in providing skills training related to modern technology used in the profession (Haolader, 2012; Ramadan & Education, 2019). As a result, at the end of the training, the trainees are unaware of the advantages and disadvantages of using modern technology. Could this problem be related to the existing curriculum or could it be related to the trainer's technical knowledge or laboratory inefficiency? It may be that skilled trainers do not have the opportunity to use the necessary labs (Ali, n.d.); Adekunle, n.d.). An investigation is needed to identify the root causes of not using modern technology in TTC. For this reason, the question in the third study in this study is –

What are the barriers for the TTC to integrate modern technology in TVET training?

1.2 Research aim and objectives

The specific objectives of this study are as follows:

1. To identify the barriers for students aiming to access TVET training programs offered by TTC Bangladesh.
2. To identify the reasons associated with student unemployment after completing TVET training from TTC Bangladesh.
3. To investigate the impediments to integrating modern technology in the TVET training program provided by TTC.

1.3 Possible outcomes

This research will help understand the barriers associated with the target students' enrollment in the training program offered by TTC. By addressing those issues, it will be easy to provide technical training to helpless and uneducated people. In most cases, these people do technical work at risk as they are incompetent, if they get training, it will be eliminated. Their self-reliance will increase.

1.4 Context of this Study

Technical education has been given more importance in building a developing Bangladesh (Md Nurul Islam, n.d.). The National Skills Development Policy 2011 has been formulated with the aim of creating suitable jobs and entrepreneurs through technical and vocational education. TVETs are being strengthened to implement this policy. TVET provides training as well as counseling and financial assistance to all men and women to create productivity and employment. Therefore, this study has been conducted to gain an idea about the current state of ongoing training of TVET institutions. Interviews were conducted with policy makers, implementers, officials and trainers of various TVET organizations.

1.5 Motivation To This Study

Bangladesh has a population of over 15 million and a labor force of 9 million (Matin, 2012). Only 5% of the labor force has received any kind of training. At least 1% have taken technical/vocational training (BMET). Although the government has taken various initiatives for TVET training the amount of success accordingly is not promising. What is known from this study are lack of skilled manpower and trainers, poor Authority, and ignorance about TVET in the administrative system. Opacity in decision making and purchase of goods. Monitoring weaknesses in TVET training, lack of adequate raw materials and equipment, inadequate lab facilities, trainees remains skills gaps even after the training, the extent to which a trainee has acquired skills at the end of the training is not assessed. For this, it is necessary to properly implement the National Skills Policy 2011. In addition to this research, the quotations given by various researchers on the same subject are as follows: Bangladesh has not yet been properly associated with the TVET industry. (Siddique; of industrial skills in Bangladesh to increase cooperation and employment among TVET organizations ((Raihan & Lock, 2013). Most developing countries believe that Technical and Vocational Education and Training (TVET) plays an important role in educating and training their large unemployed population (M. S. H. Khan et al., 2017). However, in the National Skills Policy 2011, emphasis has been laid on this issue. TVET training should be integrated into online learning for sustainable development and socio-economic development of Bangladesh (Raihan & Lock, 2013). There is a lack effects of the use of technology in education and learning situations (M. A. M. Khan, 2019). Bangladesh TVET includes entrepreneurial education in the curriculum, but teachers have experience in teaching, but they have no entrepreneurship (Haolader, 2012; Haolader et al., 2017).

1.6 Rationale and Purpose of This Study

TVET is a tool in the economic development of any country. Digital Bangladesh or developed Bangladesh means poverty, illiterate, and corruption-free Bangladesh. But it is not possible without the development of technical education. Apart from development, various countries have advanced technical education but Bangladesh is still lagging behind. Singapore has 85 percent technical education, Japan 60 percent, Malaysia 40 percent, South Korea 35 percent, Germany 60 percent, and Australia 60 percent. But only 6 percent in Bangladesh (Dewan & Sarkar, 2017). Bangladesh has made significant progress in socio-economic development in recent years in curriculum and training update data systems in response to technological changes in the implementation of the National Skills Development Policy 2011, but much less than the demand. Technical education is considered as the education of dropout students and the education of helpless people. This mentality has become a big obstacle to getting technical education so many people do not want to send their children for vocational training. Socially technical training is looked down upon so many students are not interested in taking such training. Moreover, due to low government allocation for technical education in the country, technical education institutions are not able to make much progress. Moreover, due to a lack of skilled manpower, skilled trainers,

and efficient management, the money allocated by the government cannot be spent. No concerted effort can be made to bring society out of the negative perception of technical education. The development of technical education needs to ensure proper implementation of the National Skills Development Policy of TVET Institutions. If this is done, it will be possible to achieve quality training in TVET institutions (Taha & K, 2020; Ramadan & Education, 2019). Creating proper infrastructure and manpower in all technical training institutes to control the quality of proper training, evaluation, education and against corruption. . Allocate budget according to the needs of technical education and properly monitor whether it is being spent properly. In order to increase the morale of the trainers, besides industry training, promotion or reward arrangements should be made for the trainers. Technical training institutes will be able to achieve the desired goals of the government if appropriate steps are taken to remove the barriers to training in a short period of time by creating a high-level technical team in technical management.

Bangladesh's TVET companies are considered as a role model for building development tools in the country. Many countries today have become developing nations by emphasizing TVET (UNESCO, 2019). At present, the reality of all the problems that exist in the TVET trainings in Bangladesh, the role of the people in the development of the society or the state has been examined impartially. Attempts have been made to find out to what extent the implementation of the objective of TVET is being achieved and will be achieved. But research has focused on implementing skills development policies based on the current state of TVET.

CHAPTER 2

LITERATURE REVIEW

2.1 Definition TVET Training

TVET Training offered by TTC is a kind of education and training program which provides knowledge, skills, and attitude for employment. TVET uses formal, non-formal, and informal learning. TVET Training is recognized to be a crucial vehicle for social equity, inclusion, and sustainable development.

2.2 TVET in Bangladesh

Demographic dividend refers to the growth in an economy that is the result of a change in the age structure of a country's population. Bangladesh is now on a demographic dividend (Matin, 2012). In this scenario, 53.6% of the total population is between 15 and 49 years of age, 30% is between 0 and 14 years of age, 8.2% is between 50 and 59 years of age and 8.1% is over 60 years of age (Source: Bangladesh Bureau of Statistics, 2016). Economic growth and development and technological change are possible by adapting relatively young people to (Raihan & Lock, 2013; M. S. H. Khan et al., 2017). There is a need for social promotion through TVET training institutes, the government of Bangladesh, and industrial institutes. TVET is an important tool for socio-economic development and the development of the country (Raihan & Lock, 2013; Yaqoot et al., 2021). The TVET Group could play a key role in achieving the SDGs by 2030. In particular, poverty alleviation, employment for all, learning opportunities, and decent work (Newaz et al., 2013). TVET is becoming an integral part of national education. (*Act NSDA.Pdf*, n.d.).

Obstacles include lack of TVET organization and industry, lack of trainers, and lack of demand-driven disability. Disagreement between curriculum and training. Planning, monitoring, poor security, irregularities in the procurement of goods, underestimation of skilled trainers, failure to assign responsibilities to qualified persons (M. A. M. Khan, 2019). The inconsistency of TVET training with industrial establishments has a negative impact on the country's labor market (*COVID-19 Response Plan for Bangladesh TVET Sector*, n.d.). Adequate research is needed to develop training in Bangladesh and to overcome its obstacles.

2.3 TVET System in Bangladesh

In Bangladesh TVET education management is conducted in 6 ways such as Doctoral 3 years, Masters 2 years, Bachelor 4 years, Diploma 4 years, Vocational Secondary School Certificate 2 years and Vocational 6 months, 4 months, 3 months short courses. In most cases, TVET refers to secondary school level and short course TVET training. Because TVET activities are mainly strengthened in this level of educational institution (Siddiky & Uh, 2020). The benefits of higher degree related to TVET in the universities and colleges of Bangladesh are very limited. Higher TVET degree holders have no idea about secondary level or labor level training in Bangladesh. University colleges do not have the opportunity to properly research or practice TVET practice

through specific departments and how to improve the quality of TVET at the staff level for higher degree holders. The Islamic University of Technology has a TVET department that provides detailed reviews and research opportunities on TVET. Currently, the government is conducting various activities for the implementation of TVET through the National Skill Development Authority (Zhao & Wu, 2017). In this program, a trainee is certified at six levels and two at Pre-Voc1 and Pre-Voc 2 levels as shown in Table 1. As a result, many educational institutions are creating areas for in-depth review and research on TVET.

Table 1: NTVQF system (NSDA)

NTVQF Levels	Pre-Vocation Education	Vocational Education	Technical Education	Job Classification
NTVQF 6			Diploma in engineering or equivalent	Middle Level Manager/Sub Assistant Engr.etc.
NTVQF 5		National Skill Certificate 5 (NSC 5)		Highly Skilled Worker/Supervisor
NTVQF 4		National Skill Certificate 4 (NSC 4)		Skilled Worker
NTVQF 3		National Skill Certificate 3 (NSC 3)		Semi-Skilled Worker
NTVQF 2		National Skill Certificate 2		Basic-Skilled Worker
NTVQF 1		National Skill Certificate 1 (NSC 1)		Basic Worker
Pre-Voc 2	National Pre-Voc Cert- NPVC 2			Pre-vocation Trainee
Pre-Voc 1	National Pre-Voc Cert NPVC 1			Pre-Vocation Trainee

Moreover, in the implementation of TVET, the industry also needs to collaborate with TVET organizations, organize seminars and workshops, develop equipment, and conduct research.

2.4 Technical Training Center (TTC)

The Technical Training Center (TTC) is a technical education institute, where multipurpose practical and vocational education is imparted. At present training activities are being conducted in 68 technical training centers under the Ministry of Expatriate Welfare and Manpower Employment and Training Bureau. SSC (Vocational) two year course and three months, four months, six months 360 hours technical training activities are conducted here at different times under Bangladesh Technical Education Board. Expatriates are also given three days of pre-departure orientation training. The pre-departure training provides information to the trainees about the rules and regulations of entry abroad, accommodation arrangements, laws of different countries, culture, geographical location, weather, job requirements and facilities. Various types of short term project courses are conducted in different ministries of Bangladesh including ILO, JICA, KOICA. In addition to teaching Japanese and Korean, the technical training centers provide all the facilities for sending trainees to Japan and sending skilled workers to South Korea. In implementing the mission and vision of the Government of Bangladesh, the Technical Training Centers have always played a leading role in the evaluation of Pre-Education Recognition (RPL). Currently, the government is conducting various activities at TTC to implement TVET through the National Skills Development Authority (NSDA). As shown in Fig 1: Future of TTCs.

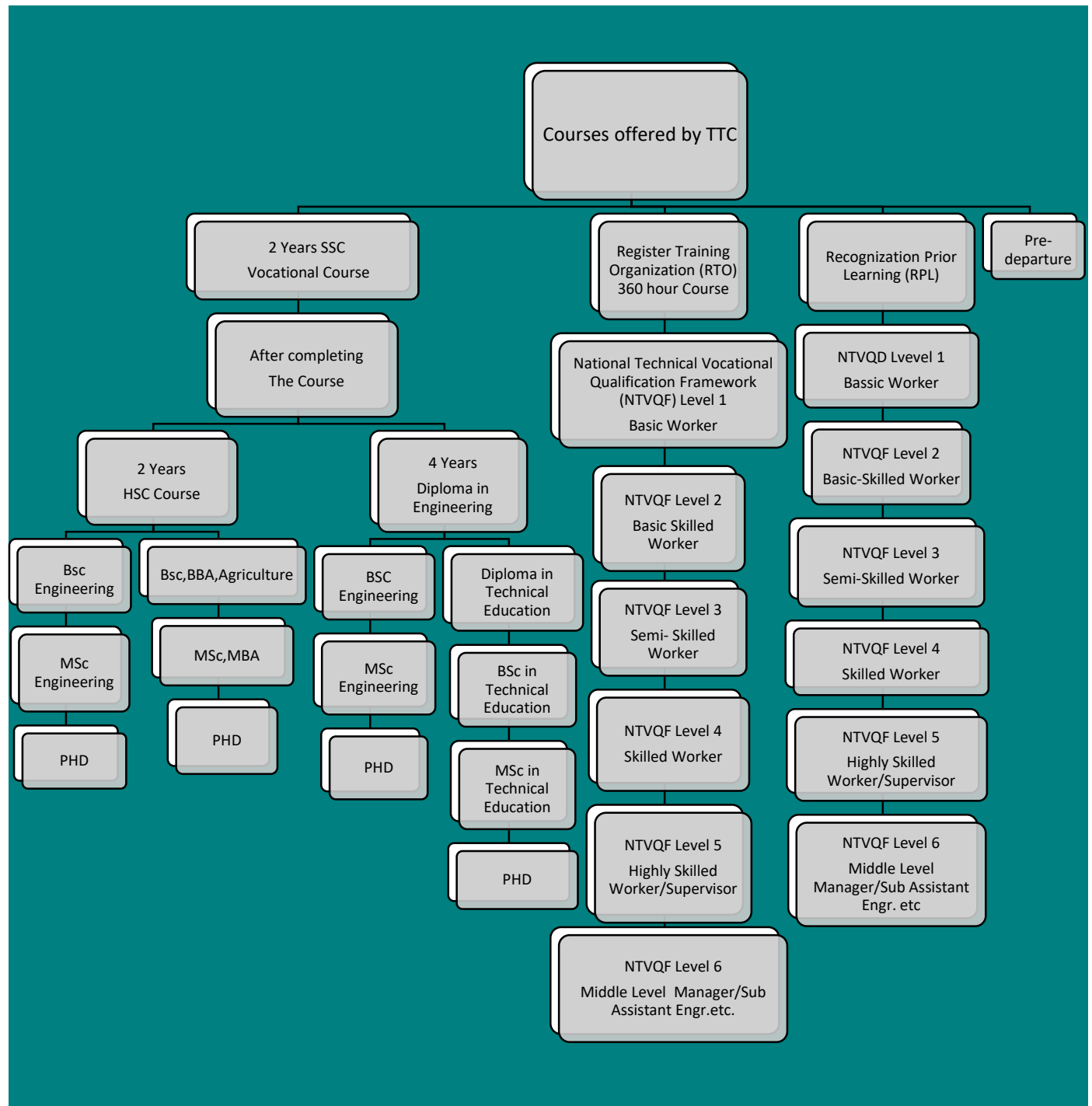


Fig 1: Future of TTCs

2.5. Status of TVET Institutions and labor market

Although the development of technical and vocational education is essential for building skilled human resources as a supporting force for the socio-economic progress of present day Bangladesh, its expansion and improvement is not as expected. Therefore, the shortage of skilled human resources is increasing in the country and the unemployment rate is increasing. The promising youth of the country are being deprived of the opportunity of self-employment. The export of skilled manpower to different countries of the world is being hampered. The amount of foreign exchange earned by sending unskilled manpower is also decreasing. However, sending a large number of people trained in middle level technical and vocational education can increase the foreign exchange earnings of Bangladesh, the country can be freed from the curse of unemployment. At present the number of students receiving technical education in the entire education system is much less than in the developed world (Blanchfield & Browne, 2013).

The percentage of educated manpower in such education is more than 80% in Japan, 40% in South Korea and 25% in Malaysia (Published, 2022). Although technical education is most important in the socio-economic context of Bangladesh, the expected development of the education system has not been possible even today due to shortage of teachers, inadequate and old equipment, and low quality textbooks. As a result, the potential for efficient human resource development is declining and the country's development activities are being hampered. However, in order to manage the development of the country smoothly, there is a special need for skilled manpower. The number of working class people who have completed diploma engineer and skilled courses is much less than the number of graduate engineers. Therefore, a sufficient number of skilled and trained manpower structure is required for the proper supervision and implementation of the work plan of the graduate engineers.

The main goal of TVET is to increase education, training and lifelong learning opportunities for unemployed youth, women, helpless and extremely poor, disabled, immigrants, ethnic minorities, minorities, backward classes, remote and rural citizens and self-employed workers. Therefore, all barriers to entry of these target trainees in TVET training should be removed.

TVET training offered by TTC is a type of education and training program that provides knowledge, skills and attitudes towards employment. TVET uses formal, informal and non-formal education. TVET training is recognized as an important vehicle for social justice, inclusion and sustainable development.

Technical Training Center (TTC) is a technical education institute, where multidisciplinary practical and vocational education is imparted. At present, training activities are being conducted in 68 technical training centers under the Ministry of Expatriate Welfare and Manpower Employment and Training Bureau. Here SSC (Vocational) is a two year course and at different times three months, four months, six months 360 hours technical training activities are conducted under Bangladesh Technical Education Board. The mission and vision of the Technical Training Centers is to take appropriate steps to implement the National Skills Development Policy. Methodology details how to implement skills development policy by solving the problems of TVET organizations.

CHAPTER 3

METHODOLOGY

3.1 Nature of Study

This study was conducted following the qualitative approach. The nature of the study, the content, the participants' personal observations, actual experiences, and experiences shared with each other were used to draw the link between TVET training and TTC by verifying the truth through quality measurements (Bobby, 2020).

3.2. Sampling and Data Collection

Sample

In this study, the researcher selected 20 respondents on the basis of a purposive sample technic for qualitative advantage (Haolader, 2012; Siddiky & Uh, 2020). The 20 respondents in this study are TVET policy makers, implementers, and trainers. In addition, various government and non-government officials and trainers associated with TVET voluntarily participate in this study with the researcher without any financial transaction or obligation. Before giving the interview, the researcher was fully informed about the purpose of their research. The consent form and semi-structured questionnaires have been added to the appendix. The researcher maintains honesty, dedication, and sincerity during his research work.

Table 2 – Distribution of Sample

Respondents	Designation	Institution/organization
P 1	Director	BMET, Dhaka
P 2	Principal	Noakhali TTC
P 3		TTC. Cumilla
P 4	Curriculum Specialist	BTEB, Dhaka
P 5	Assessor & trainer	Kishargonj TTC
P 6		BKTTC, Chattagram
P 7		Mohila TTC, Ctg
P 8		BMET, Dhaka
P 9		Noakhali TTC

P 10	Chairman	CPI Polytechnic, Dhaka
P 11	Instructor	Norsindi TSC
P 12	Chief Instructor	Laxmipur TTC
P 13	Senior Instructor	TTC, Rangamati
P 14	Instructor	Madaripur TSC
P 15		Laxmipur TTC
P 16		Sylhet TTC
P 17		Sunamgonj TTC
P 18		Bagura TTC
P 19		DTE, Dhaka
P 20		Cumilla TTC

Data collection

Primary data was collected through in-depth semi-structured interviews with the research goal in mind. Due to the nationwide lockdown of Covid-19 in Bangladesh, the researcher himself conduct a telephone interview with the respondents, which last an average of 30-40 minutes. Information is sought for a detailed collection of answer collectors during the interview. The interview was conducted in Bengali so that even minor issues could be presented by profoundly understanding each question. Then the exact conversation was written in English on the thesis paper. In some cases, it may take longer for respondents to specify the depth of the conversation and to clearly understand the responses.

Secondary information was collected from various relevant government publications, research reports, journal registrations, conference papers, newspapers, research papers, and official statistics. The qualitative information obtained from the interviews is explained through analysis. The relationship between them is explored to understand the underlying concepts (Babbie, 2020; Tripney et al., 2013; Wisler, 2009).

Data Analysis

For the analysis of the interview data, the thematic analysis was used which is in line with the procedure followed by Siddique, Rukunuzzaman (Siddiky & Uh, 2020). Data analyzed and interpreted by comparing the qualitative information generated from the interviews, understanding the underlying themes, connecting the ideas or themes, looking for relationships between them. In addition, tables, concept-mapping are used to interpret quality data. In contrast, quantitative data compiled from secondary sources interpreted by analyzing detailed statistics (Siddiky & Uh, 2020).

3.3 Ethical Considerations

The study is primarily a qualitative study because it attempts to examine social realities and presents contexts related to it. From the point of view of the respondents during the interview, their personal observations, experiences and shared understanding in solving the current training problems in TVET institutes in Bangladesh were written (Babbie, 2020). All respondents participating in this study are government and non-government officials and working instructors and TVET policy formulation, implementation and guidelines. They voluntarily participated in the study without any obligation and financial transaction with the researcher. Because of Covid 19, direct interviews with close interviewers of the researcher have been conducted and interviews of remote interviewers have been conducted over the phone. Each interview was taken in Bengali and the recording of the interview is kept with the researcher. The interview was conducted in Bengali so that even minor issues could be presented by profoundly understanding each question. Then the exact conversation was written in English on the thesis paper. Prior to the interview process, they were informed of their intentions. The researcher has maintained honesty and sincerity in his research work.

CHAPTER 4

Data Analysis and Findings

Introduction:

This research will help to understand the barriers related to enrollment of target students in the training program offered by TTC. It will be easier to provide technical training to helpless and uneducated people by solving those problems. In most cases, these people do technical work at the risk of being incompetent, which will go away with training. Their self-reliance will increase. Students' perceptions about the TVET curriculum of the TVET organization, the socio-economic status of the students and the problems of TVET policy can be identified.

Research Question 1: What are the barriers for the target students to gain access to TVET training programs offered by TTC, Bangladesh?

To create awareness among TVET target trainees about the benefits of TVET. In addition to promoting the TVET organization, TVET trainees should be informed nationally about personal, family, social and national benefits. Training of target trainees can be ensured by providing employment opportunities including accommodation, food and out-of-pocket expenses along with training of poor and helpless people.

1. Lack of publicity

People take training seriously when the government does the publicity. For this, the government can take do the publicity in favor of the institute, there is a need for extensive publicity online, through media, and in mosques based on the importance and benefits of training.

Some participants said

"The government needed to promote the institute online and in the media" (P1).

"Public awareness must be spread in religious institutions and mosques" (P3).

"Discuss in detail the benefits of training of expatriates in pre-departure orientation class" (P2).

"We need to promote this by holding backyard meetings with the TVET target group" (P7).

"Drama and film need to be promoted nationally" (P15).

"Publicity Needed in Print Media and Electronic Media" (P9).

"Meetings, seminars, and field campaigns of the Islamic Foundation need to be discussed in field level classes" (P12).

"Meetings with chairmen, members, leaders are needed to spread awareness about the importance and benefits of training" (P13).

"The benefits and importance of TVET training need to be publicized with politicians and public representatives" (P14).

"Need for Publicity through NGOs" (P5).

"There is a shortage of skilled people in some professions in Europe and other countries and TVET trainees need to improve the institutional and national relationship with access to these jobs" (P12).

2. Educational Qualifications

The minimum educational qualification for admission in the training as per rules and regulations is 8th class or equivalent qualification. The educational qualifications of the helpless and poor people are less than that so they cannot come for training.

- Some participants said

"Students who have passed madrasa and primary education cannot participate in TVET training as the minimum educational qualification for admission to the training is not eighth grade pass. Therefore, the barrier of educational qualification for admission to the training should be removed" (P1).

"Training opportunities should be provided without educational qualifications" (P2).

"Training should be given by relaxing educational qualifications" (P4).

"Adequate lack of educational qualifications in remote areas so educational barriers should be removed" (P7).

It is necessary to provide training opportunities to the students of Qawmi Madrasa by removing the barriers of educational qualification as the certificate of Qawmi Madrasa is not recognized (P9, 11).

"Backward people do not want to come for training due to lack of educational qualifications, so barriers to educational qualifications need to be removed" (P15).

3. Lack of poverty during training

Workers, helpless, poor, day laborers, and distant people have to meet their daily family expenses. Low-income people do not come to the training themselves and do not encourage anyone else to come for the training unless they are fully assured of employment and cooperation at the end of the training.

- Some participants said

"Workers, the helpless, the poor, the day laborers, and the far-flung people need to be trained by reducing their daily family expenses" (P17).

"In-service training should be provided or scholarships or incentives or grants should be given to poor people" (P13).

"There is a need to provide training to the helpless and poor by arranging accommodation or increasing the number of scholarships" (P10).

"Arranging training by resolving trainee safety, travel and accommodation issues" (P11).

"Provide training by launching occupancy courses based on area or industry needs" (P12).

To make the training of expatriates compulsory" (P15).

"Stimulating the activities of the organization through job fairs and skills fairs" (P 6).

"Educational qualifications can be relaxed and helpless and destitute people can be brought in with completely free training and scholarships" (P4).

4. Kinship and corruption

The people working in the training centers give the trainees the opportunity to get training and other financial benefits in exchange for illegal financial benefits in various ways. Moreover, in most of the scholarship courses, candidates are given the opportunity of their choice in exchange for economic benefits, political influence, and influence of higher authorities.

- Some participants said

"Due to the limited number of seats, low educated, remote, working, unemployed, job seekers are offered unethical financial benefits in exchange for admission in training" (P7).

"Running students in many schools and colleges enter the training through scholarships, free driving licenses, illegal financial transactions to obtain grants and using political influence" (P14).

"Many migrant workers engage in illegal financial transactions during pre-departure-orientation training and fingerprinting, creating a bad impression among people about any training at the same institution" (P17).

"The admissions process enters training through nepotism, corruption and opacity" (P4).

5. Problems with compulsory technical education, scholarships, and grants

Many people are not interested in training as there is no government obligation for technical education. Moreover, the amount of scholarship money is less and in non-project courses, scholarship and national skill development examination fees are not given. So people are not interested in this training. Many people do not want to come to government institutions for training at their own expense.

- Some participants said:

"Government funding should be provided for all types of courses" (P7).

"Provide free passports and toolboxes to trainees rather than incentives" (P 4).

"TVET training has no importance or obligation in the recruitment rules" (P2).

Research Question 2: What are the factors associated with student unemployment after completing TVET training from TTC, Bangladesh?

1. Lack of management:

There are weaknesses in skilled manpower and efficient administrative management in conducting training. The amount of skilled manpower and administrative management and infrastructure required to conduct training cannot be met.

- **Opinions of many interviewees**

"Training is not provided according to market or industry demand. Lack of required number and trained skilled instructors to run the lab. Lab practice is provided in the old way. Lack of lab facilities according to the curriculum. The evaluation of such certifications is less because the industry and the general public do not know or understand about TVET and NSDA. Necessary steps are not taken to address the weaknesses of the training" (P 1).

"Administration does not have TVET skills in management so it cannot take proper steps in implementation, it is not possible to reach the target" (P 4).

"Lack of required trainers, monotony of trainers, lack of promotion in working life, non-change of grade, job uncertainty, extra work pressure, creation of documentation, all these things a trainer does not pay proper attention to his training and the training is not implemented according to the curriculum. As a result, the training of trainees is not so realistic even if it is documentary" (P 5).

"There is a lack of demand-driven training management and adequate lab practice training" (P7)

"Lab facilities and infrastructure development needed" (P10)

"Many trainees come to take training while they are in school-college so the training does not want to do the last job" (P9).

"Students lack interest in jobs" (P4)

"The training of trainees does not teach about estimating, costing and quality of goods. Therefore, the trainees cannot give the right idea of any job at the end of the training. Due to this inefficiency, there is no demand for these trainees in the job market"(P11)

"There are not enough trainers in demand oriented professions" (P12)

"Quality training is not being ensured. There are gaps in training. Trainers lack skills. There is no professional trade in TTC TVET training as per market demand. In the context of Bangladesh, it is not possible to meet the standards of TVET because we have not been able to achieve it " (P13)

"The quality of training is not adequate. The level of skill a trainee has achieved is not identified. Training is not given according to the market profession" (P14)

2. There are no proper steps for monitoring, evaluation and certification

During training at an institution, training is observed on a nominal paper to conduct appropriate training according to the syllabus. Although the training is properly evaluated at the end of the training, it does not evaluate how much or what skills a trainee has acquired during the training. The trainee has to suffer because the certificate is not issued immediately at the end of the training.

- According to many of the interviewees

"All information, admission process, results and certification online notification service through mobile You have to pay"(P1)

"There is no evaluation of TVET training in the market, there is no identity, there is no obligation, there is no opportunity for TVET trainees to enter the recruitment process. No notes or books are given to the trainees. Weaknesses of the trainees are not taken into consideration. The number of trainers is not enough for training. There is no opportunity for promotion of trainers and higher education. No, it is not possible to take appropriate steps for implementation. Reach the goal" (P4).

"Field evaluation for certification under different names (e.g. NSDA, BTEB, BMET)Less" (P2).

"Government grants for RPL exams, speeding up exams by the board, certificates are not issued on time" (P7).

"The real field needs to be monitored to see if the training matches the needs of the industry" (P17).

"The trainee has to work with up-skilling, otherwise the trainee will lose interest in the next training after one skill. It is necessary to increase the quality of training by introducing evening training by discontinuing the scholarship completely" (P7).

"Strengthen training and evaluate appropriately" (P10).

"The quality of training needs to be ensured by providing adequate lab facilities for the trainees and closing the training gaps for the trainees" (P15).

"Unemployment will be reduced if there is no time limit for entry into training, if certified in time and if the duration of RPL certification is extended" (P4).

"Monitoring teams are not formed by technical experts to identify training gaps and corruption in training institutions and necessary steps are not taken" (P5).

3. Lack of modern machinery, goods, learning materials

Lack of modern equipment, supplies, and teaching materials: Progress in building or replacing modern labs with skills-based training is not promising, and training labs lack modern equipment, tools, and teaching materials, as well as the necessary trainers and manpower for maintenance.

- Some participants said

"Training institutes lack modern equipment and supplies" (P3).

"Training institutes lack adequate budget for modern equipment and supplies" (P10).

"Learning materials are not enough, there is a lack of subject matter instructors" (P7).

4. Incompetent trainers and mismanagement

Due to the shortage of trainers, the trainers who are not experts in the relevant field are given the responsibility of training. As a result training management by incompetent trainers does not become strong.

- The participants said:

"Non-technical trainers are appointed in recruitment of manpower rather than technical trainers" (P5).

"Technical administration is governed by non-technical administration. As a result, the quality of training does not improve" (P2).

"Technical training is conducted with non-technical trainers. Therefore, the technical trainer cannot acquire his own ability to implement the training in his workplace" (P4).

"Promotion of technical trainers is not easy but promotion of non-technical trainers is common" (P13).

"Technical specialists are not evaluated" (P4).

5. The efficiency measure is not according to the market demand

In the case of employment, the amount of demand of a course and the subjects to be included and omitted are not verified according to the requirements of the industry standard of the course. So the standard of the course is not exactly the standard of proficiency.

- Participants said:

"Certification under different names (such as NSDA, BTEB, BMET) reduces the value of certification at the field level. When it comes to hiring skilled workers, employers go after hesitations for testimonials of different names, which makes it difficult to analyze the efficiency criteria" (P2).

"At the end of the training, only Level One assessment is done in NTVQF system, so that not all the lessons in the curriculum are completed in the training, only Level One assessment related lessons are completed. As a result, the desired skills of a trainee are not acquired" (P5).

"A trainee cannot make a small estimate and expenditure budget according to the needs of the industry at the end of the training. Can't even give an idea about the quality of the product" (P11).

Research Question 3: What are the barriers for the TTC to integrate modern technology in TVET training?

1. The student-teacher ratio is not right

More trainees than teachers are admitted, so the teacher cannot give the same amount of time to all the students in the class. So there is a gap in the training and the trainees cannot acquire the required lab practice or practical skills.

- Participants say:

"The number of trainers is not enough for training" (P4).

"The ratio of trainers to trainees is not accurate" (P11).

"The number of skilled manpower in providing modern training is far less than required" (P1).

"There is a lack of necessary trainers" (P5).

"We don't have the required number of subject-based trainers" (P7).

"There is a shortage of trainers so there is a shortage of training" (P9).

"Trainer shortages need to be filled" (P10).

"There is a shortage of skilled trainers" (P12).

"There is a shortage of specialist trainers in the implementation of modern technology." (P13)

"Trainer shortages need to be filled." (P17)

2. Instructors lack technical knowledge

Many of the trainers are non-technical trainers, some trades do not have relevant trainers. Moreover, there are some guest trainers who are working as trainers only through the experience without acquiring formal knowledge in the respective trades. All these trainers do not maintain the quality of training. Non-technical instructors are promoted to higher ranks than technical instructors and technical instructors are frustrated and embarrassed by not being promoted. As a result, not all technical and non-technical trainers pay attention to acquiring knowledge of modern technology.

- The participants said:

"Increase morale with further training of trainers who have skills or knowledge on relevant topics and give them the responsibility to manage it by increasing skills" (P7).

"Trainers are not able to update themselves over time. There is a gap in the modern skills of trainers, so it is necessary to arrange up-skill training for trainers" (P7).

"Steps need to be taken to implement the training through evaluation of trainers with modern technology knowledge. The door to higher education should be opened for trainers" (P17).

"Arranging industry training for trainers in various industries for at least three weeks a year" (P3).

"Qualified people need to be put in the place of qualifications" (P 2).

"Trainers need to arrange for higher training in the relevant field" (P 7).

"Trainers need to be trained in technical knowledge and take appropriate measures to implement the training at the end of the training" (P 10).

"Trainers are lagging behind in modern training. The number of skilled manpower in providing modern training is much less than required. Trainees are not given skill based assessment and facilities. Modern products are not provided with curriculum changes. Outside of training, trainers are busy with other office work" (P 1).

"Instructors should be kept away from extra work outside of training" (P11).

"It is possible to use modern technology if the awareness of trainers is increased" (P12).

"Trainers with experience in modern technology should be hired. Administrative people need to increase TVET training skills, surveillance, interest. Trainers should be sent for training in industrial establishments at different times" (P13).

"Trainers need to arrange training in industrial establishments for the experience of modern technology" (P14).

3. Lack of planning

There is a lack of planning on how the training will be conducted from start to finish before the start of the training and when the required raw materials, tools and learning materials will be provided.

- Participants says:

"According to the market demand, TTC will have to provide the required budget by introducing professional trades in TVET training. Lab facilities need to be improved with relevant trade syllabus updates. In order to implement the training properly, training planning, evaluation and monitoring must be done properly from the beginning of the training" (P13).

"Administrative work needs to eliminate the complexity or slowness of the decision-making process and speed up the decision-making process" (P14).

"Training experts at TVET are not evaluated, they need to be evaluated appropriately" (P7).

"Field level managers and administrators need to be competent and skilled people and they need to be promoted to higher positions through proper evaluation. Lack of coordination with the Ministry of Industries and Skills Training Institutions needs to be addressed" (P2).

"Training needs to be arranged in industrial establishments for trainers in industrial technology training" (P3).

"High-level administration needs to be managed by a technical person and a TVET expert" (P4).

"Training needs to be started by meeting all the requirements for training. Corruption and lack of management in the supply of essential commodities needs to be eliminated. There needs to be coordination among experts from industry and training institutions" (P5).

"Modern equipment is not provided over time, there are no skilled trainers to handle it" (P7).

"Policy makers lack technical knowledge" (P17).

"All types of training must be certified from one hub" (P7).

"In addition to curriculum updates, trainees need to take the necessary steps to bridge the skills gap by strengthening the monitoring system" (P11).

4. Trainers do not want to use their skills

Even after working for a long time, the trainers are being deprived of promotion, skill assessment and higher education opportunities. Moreover, due to the shortage of manpower, the higher authorities use trainers more in official work than in training, so the trainers do not get the opportunity to use their skills in training.

- The participants said:

"Trainees are not assessed on a skill basis and outside of training, trainers are busy with other office work" (P1).

"Qualified people need to be placed in the right place and given opportunities for promotion and higher education" (P2).

"Instructors do not have access to promotion and higher education, so there is monotony among them and TVET experts are not evaluated" (P4).

"Not getting a promotion in working life, not getting a grade change, extra work stress, creating documentation, all these frustrations a trainer doesn't pay proper attention to providing training" (P5).

"Instructors need to avoid extra work stress outside of training" (P11).

"Trainers are less interested in training because they have to do other official work outside of training" (P 9).

5. There is a lack of transparency in procurement and buying.

Administrative vulnerabilities need to be addressed and trainers need to be trained in their use by purchasing and deploying products centrally in organizations. Moreover, transparency must be applied in the purchase of genuine and quality products.

- The participants said:

"Administrative management is not free from corruption. There is a lack of transparency in procurement and procurement" (P2).

"Principals need to stop nepotism / corruption" (P3).

"Corruption and lack of management in the supply of essential commodities must be eliminated" (P5).

"Administrative weakness and lack of transparency in product delivery" (P7).

"Weaknesses in administrative management need to be addressed. We need to be transparent in purchasing the right products" (P11).

"Transparency in product delivery should be increased" (P15).

"Restrictions on the supply of new equipment and products need to be removed" (P7).

"We need to increase transparency in our shopping" (P7).

"The time it takes to purchase and deliver products needs to be reduced" (P9).

6. There is a lack of planning and research to implement the training

There is no separate branch for training management in training problem solving, training modernization and facilitating access to training, so the quality of training remains almost the same. Adequate research is needed to improve the quality of training.

- The participants said:

"Training should be planned according to the market demand" (P7).

"Planning should be done to formulate updated curriculum as per the demand of industry and world market" (P9).

"Plans to introduce new trades of TVET training in TTCs should be implemented as per the market demand" (P13).

"Training standards should be planned as well as budget allocated" (P14).

"As well as developing the industry linkage curriculum, proper planning and monitoring should be done for its implementation" (P7).

"Arranging for on-demand driving training. What kind of skill person will need to do the strategy or analysis, what amount will be needed and where is the demand. There should be a training plan according to the market demand" (P 7).

"Training plans should be implemented according to industry demand" (P10).

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Discussion:

My Research Question 1 is “What is the barrier to entry of trainees for training in TVET Institute?”. Tanvir Newaz, who has done research in this regard, said that there is a lack of skilled trainers in the training institutes (Newaz et al., 2013). Moreover, skilled and experienced trainees do not want to come in this profession as there are no good facilities in the training institute. For this reason, TVET training is less accepted in the society, many students feel that there is no opportunity for higher education after TVET training so they do not want to come for training (Newaz et al., 2013). Roy says there is no curriculum update and there is no coordination of training with market demand, so trainees are not interested in coming for training (Roy et al., 2022). Hoque said there is a lack of publicity, many people do not know about TVET so cannot come to the training. Also many people cannot come for training due to lack of awareness (Hoque, 2019).

All the answers I got from the interviewers for my research question 1. Educational Qualification: Minimum educational qualification for admission in TVET training is 8th class. Because TVET targeted students who have dropped out of education, helpless, extremely poor people, most of them are less educated so they cannot enter the training. Moreover, the students of Qawmi Madrasa cannot come for training in the complexities of education. Therefore, by removing the barrier of educational qualification, everyone should be given the opportunity of training. 2. Lack of publicity: That is, there is a lack of publicity for TVET training. 3. Kinship and Corruption: In order to get scholarships and other benefits, many people take the opportunity to train the job seekers working in the organization in exchange for unethical financial benefits.

Research Question 2 is “What is the cause of unemployment after TVET training?”. Mustafa said that the TVET policy was not properly formulated (Mustafa et al., 2019). As a result, many trainees remain unemployed even after completing the training. M.A.M Khan said that the training curriculum is not tailored to the market demand (M. A. M. Khan, 2019). That is why the trainees do not get good benefits to enter the job market. Musa said that there is a gap in the skills of the trainees in TVET training so all these trainees cannot survive in the job market (Musa & Wang, 2013). Interviewees in my research said that the organizations have weaknesses in proper monitoring, evaluation and certification of training. As a result, a trainee aspiring for a job has to be a victim of harassment.

Research Question 3 is “What are the barriers for TVET organizations to use modern technology?”. In this context, M.N. Islam has already said that there is no technical curriculum update (M Nurul Islam, 2008). As a result, training in modern technology is not implemented in training institutes. Tripney says that curriculum does not match the demand of industry or market. As a result, there is a shortage of training in industrial technology (Tripney et al., 2013). B.Economy says that implementation of technical training is not possible without skilled and trained trainers (Economy, 2021). Researcher Taha says that the use of modern technology is slow due to administrative weakness. In my research, interviewees say there is a lack of adequate trainers and manpower. Reluctance to employ working trainers and manpower because there is no promotion, good job evaluation and other opportunities even after long service. Moreover, due to

the manpower crisis, the trainers cannot concentrate on providing the main responsibility training due to extra work pressure.

According to the study, TVET has not been implemented properly in Bangladesh yet. In order to implement the TVET system in Bangladesh, it is necessary to take the necessary steps to solve three important policy issues. From the outset, many initiatives need to be taken to establish mutual cooperation for TVET target trainees to enter training officially or institutionally. Arrangements need to be made to get the message across to each target trainee through the campaign. People with minimum educational qualifications 5th class or signature knowledge should be given the opportunity of training. In this way, the people going to madrasas and expatriates can be attracted for more training. To provide pocket money to the poor and needy people during the training by showing their poverty certificate and providing them with food for financial security during the training. It is necessary to stop the nepotism and corruption of the individuals working in the organization while taking economic benefits.

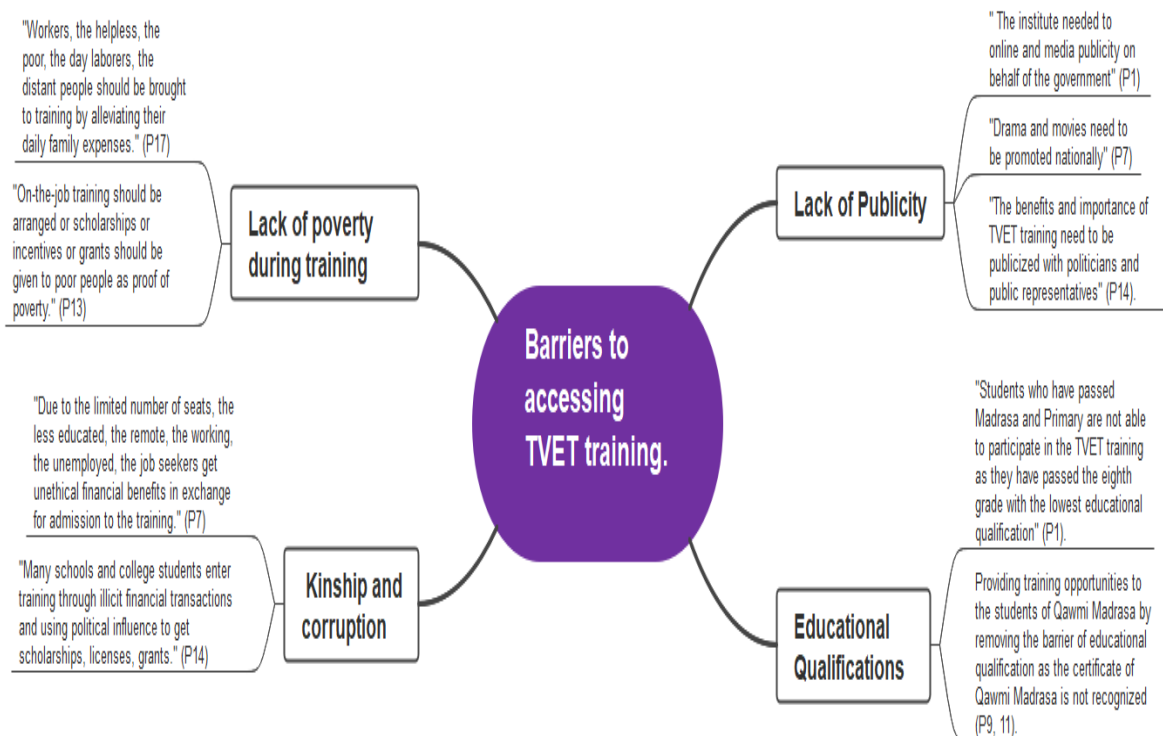


Fig 2: Barriers accessing TVET training

Second, the National Skills Development Policy needs to be properly implemented so that the skills requirements of the industry are identified, the curriculum is updated based on the needs of the industry and appropriate training is provided. In that case, it is necessary to make arrangements for proper management through skilled trainers, an efficient administrative system, and skilled manpower. So that a trainee can acquire practical skills during the training including knowing the exact rules of using modern equipment and materials. According to the demand of the job market, the training activities of the trainees should be properly monitored and the certification should be arranged by evaluating the skill steps by the time of completion of the course. In many studies in this regard, I have seen that Bangladesh has not yet joined the TVET industry, which plays an

important role in the implementation of TVET(Ramamurthy et al., 2021). Online based TVET management is needed(Raihan & Lock, 2013).

Thirdly, Bangladesh can adopt models from developing countries like China, South Korea, and Philippines for modern TVET training. Training by Order Model and Zero Period Adaptation Model can be used for Bangladesh. Those who from high school will be admitted to college and job seekers will be given training and a certain amount of scholarship according to the needs of the industry. The cost of the training will be borne by the industry. The Zero Period Adaptation Model provides education in public-private partnership management. In this way the system will be able to connect the trainees with industry or employment. The Zero Period Adaptation model is designed by training institutes and industry. That is to provide education in public-private partnership system. In this way, industry and TVET will not only co-operate with the institute but also the training institute will enable the students to be associated with employment (Hung et al., 2009).The overall responsibility of the Government of Bangladesh is to link TVET with industry, to ensure the quality, transparency, accountability and efficiency of TVET. Therefore, it is necessary to ensure the use of modern equipment in practical training which is in line with the results of this research.

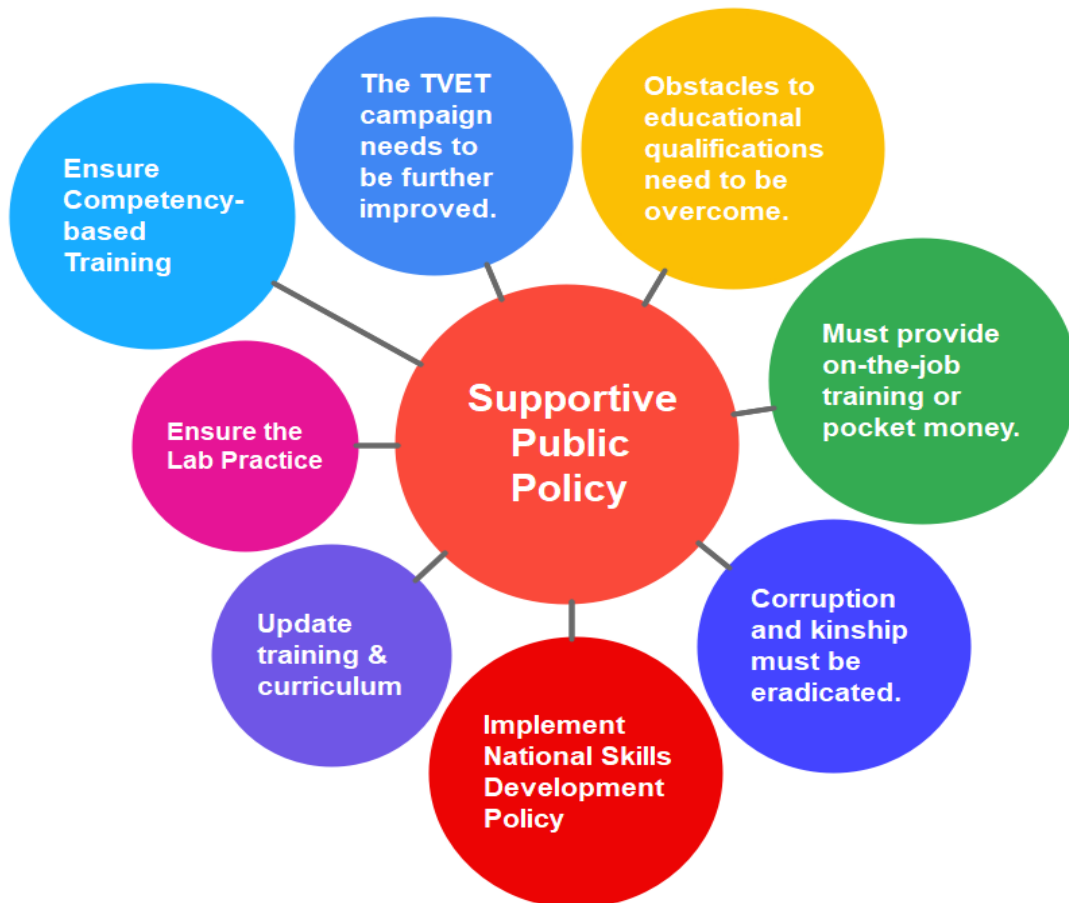


Fig 3: Supportive public policy

Conclusion

Among Bangladeshi workers working abroad, 62% are unskilled, 36% semi-skilled and 2% skilled. (BMET). Lack of adequate educational skills hinders quality employment. And Bangladesh is at the bottom of the list of developing countries in terms of education and skills. For example, the initiative to set up one technical training center at each district and upazila level is not conducive to the implementation of TVET. This is because the time spent on creating new institutions, recruiting trainers and other manpower and supplying products is creating big problems in the implementation of the goals of the Bangladesh government. Moreover, even if the population of Bangladesh increases, the number of young people will not increase in the future but will decrease day by day (Bureau of Statistics, 2017). Without establishing new technical training centers in districts and upazilas, the Bureau of Manpower, Employment and Training (BMET) can establish various professional trades in reputed schools and colleges at district, upazila, and union level to implement TVET training as per industry and area based demand. By assigning responsibilities for the supervision and operation of technical training institutes, 30 percent of the country's population might be trained in TVET training at the urban and union levels by 2030, allowing the Bangladesh government to implement mission and vision. Building skilled labor will take less time and save a significant amount of money. For students at the same institution, the TVET training system will be crucial and convenient. If TVET training is provided in old educational institutions at the city, suburban, and union level, there will be no scarcity of trainees. It will take less time to build skilled manpower and will save huge amount of money. The TVET training system will be important and convenient for the students of the same institution. There will be no shortage of trainees if TVET training is provided in old educational institutions at city, suburban and union level. TVET training will have a positive effect on them. So this initiative will bring TVET training more accessible and closer to the people. At present, there are now insufficient TVET training facilities in the same institute for this reason ordinary students are unwilling to spend additional time improving their skills in any other institute. As a result, TVET training can be strengthened by addressing present TVET institution issues and incorporating various demand-based professional trades in the old educational institutions of the area.

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Appendix

Thesis Title: Current status of TVET programs at Technical Training Centers (TTC) in Bangladesh

Semi-structured interview schedule

1. (a) What are the family problems of students participating in TVET training?
- (b) What are the social problems of students participating in TVET training?
- (c) What are the educational problems of students participating in TVET training?
- (d) What are the financial problems of students participating in TVET training?
- (e) What are the problems of communication and admission process of students participating in TVET training?
2. (a) Whether the TVET management is adequately responding to the market demand?
- (b) Whether there is a gender-friendly environment in TVET institutions and workplaces?
- (c) How successful has TVET been in achieving international standards and quality assurance of training?
- (d) Whether there are adequate job opportunities for the graduates who have completed TVET training?

(e) How effective are the incentives, apprenticeship wages, stipend programs and whether they are adequate?

3. (a) How aware are the trainers of TVET institutes about technology knowledge?

(b) Whether modern technology is given priority in creating subject matter and curriculum?

(c) Are there proper arrangements for planning, monitoring and evaluation?

(d) Whether there are workshop facilities for adequate skill development?

(e) How strong is the administrative management system in implementing TVET training.

Interview Consent Form

Participant's Name

Mustafa Ahsan Habib

Interview Date

01/05/2022

Project/Research Title

CURRENT STATUS OF TVET PROGRAMS AT TECHNICAL TRAINING CENTERS (TTC) IN BANGLADESH.

Description of the Project

This research is about TVET training at the Technical Training Center. What are the barriers for the target students to gain access to TVET training programs offered by TTC, Bangladesh? What are the factors associated with student unemployment after completing TVET training from TTC, Bangladesh? What are the barriers for the TTC to integrate modern technology in TVET training? All these questions will be answered in this research.

- I confirm that my participation in this research project is voluntary.
 - I understand that I will not receive any payments for participating in this research interview.
 - I understand that most interviewees will find the discussion interesting and thought-provoking. I have the right to decline to answer any question or to end the interview.
 - I confirm that the research interview will last approximately 20-30 minutes.
 - I understand that the researcher will not identify me by name in any reports using information obtained from this interview and that my confidentiality as a participant in this study will remain secure.
 - I have read and understood the explanation provided to me.
 - I have been given a copy of the consent form.
 - I wish to review the notes, transcripts, or other data collected during the research interview.
 - I agree that the researchers may publish documents that contain quotations by me.
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By signing this form, I agree to the terms indicated above.

Participant's Signature



Date Signed

01/01/2022

Researcher's Signature



Date Signed

01/01/2022