

Collaboration for transition between TVET and university: a proposal

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Abstract

Purpose – Despite the growing emphasis on revitalizing the technical and vocational education and training (TVET) sector in Bangladesh, very little discussion has taken place on reforming the current inflexible transition pathways, from TVET to the universities. This paper aims to reflect critically on the existing literature on TVET, in the global and national context, and the experiences of students and TVET experts, to develop a model of collaboration between the polytechnic institutes and the universities in Bangladesh.

Design/methodology/approach – This paper follows a qualitative strategy of enquiry, using a mix of critical reflection on literature on TVET and higher education and unstructured interviews with two TVET experts, four TVET students and four students from a public university. It draws on the theories of collaboration and uses exemplary cases to illustrate and support the line of reasoning.

Findings – This paper identifies that there is resource dependency between the polytechnic institutes and universities in Bangladesh, and their institutional environment necessitates them to form collaboration to ensure flexible transition pathway, from polytechnic institutes to universities; this paper proposes a model for such collaboration.

Practical implications – This paper offers a guideline for forming collaboration among the relevant stakeholders.

Social implications – Collaboration between polytechnic institutes and universities in Bangladesh is likely to address the inequitable nature of TVET, by improving its social status and acceptance, as well as allowing higher income opportunity and greater mobility for the TVET graduates, coming especially from humble socio-economic backgrounds.

Originality/value – This paper contributes in the recent discussions on how collaboration among different stakeholders can contribute in achieving the sustainable development goals, with special emphasis on TVET.

Keywords Collaboration, TVET, Transition, Pathway, University

Paper type Conceptual paper

Introduction

Transition pathway from technical and vocational education and training (TVET) to higher education generally refers to the arrangements that enable students to progress from one qualification to another, through admission or credit transfer, or both, in a defined qualification pathway (AQF, 2011). In recent years, transition pathways, especially from the post-secondary TVET to higher education, has gained considerable attention from the



policy makers, scholars and development practitioners across the world (OECD, 2012b; UNESCO, 2012; 2016; Field and Guez, 2018; European Commission, 2016).

With the global endorsement of the sustainable development goals (SDGs), equitable access to higher education has become an indicator towards achievement of the educational targets set in the SDGs. Governments are expected to create flexible transition opportunity between TVET and further and higher education (UNESCO, 2016). Bangladesh, as an endorsing country of the SDGs, has expressed significant commitment to revitalize the TVET sector. The government of Bangladesh (GoB) aims to increase the enrollment in TVET to 20 per cent of the total enrollment at the secondary level, by 2020 (World Bank, 2007), which is only 14 per cent at present (Nabi, 2018). However, reforming the current inflexible transition pathway from the post-secondary TVET to universities has not been a priority in the policy agenda.

This paper aims to reflect critically on the existing literature on TVET, in the global and national context, as well as the experiences of students and TVET experts, to develop a model of collaboration between the polytechnic institutes and the universities in Bangladesh. Taking a resource dependency and institutional perspective to organizational collaboration, this paper argues that critical contingencies for forming such collaboration are in place in Bangladesh. This paper advocates viewing universities as “engaged” entities, requiring contributing in the development of the community (Kellogg Commission, 1999; Watson, 2007), and play an active role in ensuring equitable access to higher education for the Diploma graduates in Bangladesh.

The paper follows a qualitative strategy of enquiry, using critical reflection on literature on TVET, and unstructured interviews with two TVET experts, four TVET students, and four students from a public university. While critical reflection on literature is expected to support the paper in gaining new insight on the inequitable nature of TVET and find solution (Fook, 2012), unstructured interviews guide the assessment of TVET in Bangladesh – understanding the context through the participants’ perspectives of social reality (Corbin and Morse, 2003), and to support in finding pattern for generating a model (Zhang and Wildemuth, 2009). The broad themes emerged from the interviews are used to identify the critical contingencies for collaboration between universities and polytechnic institutes.

Defining technical and vocational education and training and engaged university

Technical and vocational education and training

TVET refers to the combination of “education, training and skills development, relating to a wide range of occupational fields – production, services and livelihoods” (UNESCO, 2016). It is an umbrella term, used to refer to a variety of terms such as apprenticeship training (AT), vocational education (VE), technical education (TE), technical-vocational education (TVE), occupational education (OE), and professional and vocational education (PVE). In the Asia-Pacific region, the term vocational education and training (VET) is more frequently used as an equivalent to TVET (Naidu, Stanwick and Frazer, 2013).

As part of lifelong learning, TVET can take place at the secondary, post-secondary and tertiary levels, and may also include work-based learning, training and professional development, leading to qualifications (UNESCO, 2015). At the post-secondary level TVET includes post-compulsory vocational education and training, aiming at developing occupational or work-related knowledge and skills (UNEVOC and NCVER, 2009). It excludes the degree and higher level programs. Education at this level aligns with the level four of the International Standard Classification of Education (ISCED 4), where the course

contents are not sufficiently complex to be regarded as tertiary education, while can clearly be referred to as post-secondary education (UNESCO-UIS, 2011). Once completed, the post-secondary TVET students may directly join the labor market or may aspire to attend the short cycle tertiary education, or the Bachelor's or equivalent level of education.

Engaged universities

The primary mission of universities has traditionally been developing human capital through teaching, while having long-term impact through research, knowledge transfer and promotion of local economic growth (Brenzitz and Feldman, 2012). The changing nature of jobs, skills requirements and the global mandate to sustainability have been affecting expectations of people from different streams of education, making the role of universities more complex.

Last decade has witnessed a growing emphasis on the engagement of universities with other relevant stakeholders in the society. Civic and community engagement started to be considered as the “new paradigm” in the institutional mission of universities (Watson *et al.*, 2011). Being viewed as “engaged” entities, universities have been under pressure to contribute in the society through a two way reciprocal relationship with the community that hosts them (Kellogg Commission, 1999; Cherwitz, 2005; Cherwitz and Hartelius, 2007; McDowell, 2003; Watson, 2007; Watson *et al.*, 2011). As the publicly funded universities are seen as “public” entities, they have been especially expected to have a mandate to be engaged with the society (Cherwitz and Hartelius, 2007).

While defining university engagement, The Kellogg Commission (1999) has referred to the redesigned teaching, research and extension and services that are sympathetically and productively involved with the communities that universities serve. The key emphasis has been on partnership and collaboration in defining common problems and goals, as well as pooling fund from different sources.

It reflects that while the traditional relationship between the society and universities has been a one way transfer of knowledge, often being elitist in nature, the emerging view of such relationship goes beyond that, emphasizing on collaboration with stakeholders. It is argued that a genuine collaboration between universities and community demands “mutual humility and respect, joint ownership of learning, and co-creation of an unimagined potential for innovation, beyond university's typical elitist sense of service” (Cherwitz, 2005; Cherwitz *et al.*, 2002).

Collaboration: theoretical underpinning

Collaboration generally refers to an “inter-organizational effort, to address problems that are too complex and too protracted to be resolved by unilateral organizational action”, through which organizations try to cope with turbulence and complexity in their environment (Gray and Wood, 1991; Gray, 1985).

More specifically, collaboration is defined by Gray (1989) as:

A process through which parties, who see different aspects of a problem, can constructively explore their differences and search for solutions that go beyond their own limited version of what is possible.

Why and when organizations would collaborate with each other can depend on a number of critical contingencies, internal and external to the organizations (Oliver, 1990). While some collaboration may aim in advancing a shared vision among the stakeholders, some may focus on solving a mature problem, and some may target conflict resolution (Gray, 1989).

From a resource dependency perspective, organizations involve in a collaborative process to “obtain access to critical resources and to increase their power relative to other

organizations” (Barringer and Harrison, 2000). As organizations generally operate in an uncertain environment, having scarce resources, it results in interdependency among them for monetary or physical resources, information and social legitimacy (Preffer and Salancik, 1978). Organizations involve in exchange of resources that they do not currently possess, produce or are unable to produce in a timely manner to accomplish their tasks, and to increase their power as well (Aldrich, 1976; Cook, 1977; Preffer and Salancik, 1978; Hillman, Withers and Collins, 2009; Barringer, and Harrison, 2000). However, if organizations fail to perceive their interdependence or the need of multiparty effort to solve the social problem, they are less likely to collaborate with each other (Logsdon, 1991).

Institutional environment in which organizations operate greatly conditions and puts pressure on them to justify their action (Meyer and Rowan, 1977) to the key stakeholders – clients, funding agencies and the government. From an institutional perspective, organizations collaborate as a response to the institutional environment – to conform to the prevailing social norms to gain legitimacy, and improve reputation, image and prestige (Oliver, 1990; Meyer and Rowan, 1977; Meyer and Scott, 1983). It explains how at a broader level a particular organizational form is adopted to gain legitimacy, and how failure to comply with such expectation may create legitimacy crisis for the organization (Deegan, 2006). Organizations tend to comply with the institutions following examples of other “successful” organizations in the same environment (DiMaggio and Powell, 1983) and expect to be rewarded for their compliance with socio-cultural expectations and requirements (Siegel, 2010).

Integrating the inter-organizational literatures from 1950 to 1990, Oliver (1990) has identified critical contingencies for formation of voluntarily collaboration, such as: necessity, asymmetry, reciprocity, efficiency, stability and legitimacy. Mandated collaboration, on the other hand, is seen to be necessitated by direct or indirect mandate of a superior authority, such as government or professional agencies. In a mandated relationship, motivation for forming collaboration is determined by the anticipated consequences of noncompliance to the mandate (Oliver, 1990), the extent of dependency on the government’s resources, as well as the type of industry that the organization is situated in (Guo and Acar, 2005).

The stages or process in forming collaboration depends on the nature of the problem domain. When the problem domain is unorganized and the willingness of the stakeholders to collaborate is low, organizations will not perceive their interdependence (Logsdon, 1991), and will require strategic bridging (Westley and Vredenburg, 1991) for collaboration to take place. In an unorganized domain the key stages for forming collaboration includes: the problem setting phase, the direction setting phase and the structuring phase (Gray, 1985). During each of the stages, organizations will require a convener to facilitate the process of collaboration (Gray, 1989).

Imperatives for collaboration: the global context

Changing skills needs

Globalization and the fast pace of advancement in technology and communication has been reshaping the pattern of labor market throughout the world, changing the skills requirements for current and emerging jobs. Skills formation systems have been under pressure to change (Powell and Solga, 2010), giving way to the rising demand for higher level of qualifications, with specialized knowledge and skills. While the demand for technical skills is still high, demand for advanced cognitive and socio-behavioral skills, and skills combinations associated with greater adaptability is also rising (World Bank, 2019). This necessitates both TVET and universities, as key players in developing human

resources, to take strategic decisions and address the emerging labor market by enabling students to survive in such uncertain environment.

Global mandate to sustainable development goals

The SDGs, as part of the wider 2030 agenda for sustainable development, are considered to be the blueprint for sustainable future of the world, endorsed by the global leaders. This has necessitated that as partners in social development, universities must work together to achieve the SDGs (Ross, 2019, March 5). For instance, the times higher education (THE) has developed a ranking of the impact of the universities in delivering the SDGs, looking especially at the collaborations formed by universities, that reference to the SDGs directly.

Among the seventeen goals, goal four directly addresses the education sector, including both TVET and tertiary education. Two of the specific targets in the SDGs are related to skills and employability, aiming to, by 2030:

- “Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university” (SDGs target 4.3), and
- “Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship” (SDGs target 4.4).

Aligned with the SDGs, UNESCO (2016) appeals that:

Member States should develop pathways and facilitate transitions between secondary, post-secondary and tertiary education including flexible admission procedures and guidance, credit accumulation and transfer, bridging programs and equivalency schemes that are recognized and accredited by relevant authorities. TVET institutions, and other education institutions and authorities, should collaborate for the implementation of such measures.

The European Commission (2016) as well has argued that TVET needs to be more attractive to the students and demonstrate capacity to enable progression towards higher vocational and academic education. Even before such commitment to the SDGs, in the Third International Congress on TVET in Shanghai in 2012, flexible pathways and progression of TVET learners to the higher levels of education was recognized to be critical (UNESCO, 2012).

Relative social status of technical and vocational education and training and higher education

Most of the countries in the world have stratified educational systems, among which TVET generally enjoys a relatively inferior status, as it does not provide the same kind of opportunities that academically oriented curriculum provides and often is associated with the “less-able” members of the society (Morris, 1996). The general perception of TVET is that it is an inferior pathway to employment, compared to university. Empirical analyses in numerous countries such as Egypt (OECD, 2015), Hungary (OECD, 2008), Israel (Musset *et al.*, 2014), Ghana (Isaac, Ebenezer and Newton, 2014), Ethiopia (Haileselassie, 2002), Lebanon (Vlaardingerbroek and El-Masri, 2008), South Korea and Taiwan (Cheng, 1992), Hong Kong and Singapore (Morris, 1996), India (Jain, 1992) and China (Ling, 2015), portray how TVET is seen as an inferior option, a dead-end, a terminal pathway to career.

The negative perception associated to TVET has affected the rate of enrollment of students into the TVET programs in many of the developing countries. TVET is perceived to be patronized by people from relatively underprivileged social groups, with “lower intellectual ability”, and by school dropouts and illiterates (Jain, 1992; Lovšin, 2014). Such

perception is reinforced by the fact that TVET graduates mostly tend to join the less prestigious blue-collar jobs, in comparison to academic programs that leads to white collar jobs (Maiga, 2013; Essel *et al.*, 2014; Nutassey and Newton, 2014).

The inequitable nature of vocational education can also be attributed to the terminal nature of such education, imposing restrictions in access to higher education (Jain, 1992). Once enrolled, students from the vocational educational stream often find it difficult to get admission into universities, especially in countries where the transition pathway from TVET to universities is selective and restricted. As a result they end up in earning less compared to the students who had chosen the academic programs. This cycle of underprivileged socio-economic background –enrollment into TVET – unequal earning opportunity, tends to reproduce the social position that TVET students and their families originally had. Observing the limited academic and career opportunities and lack of prestige, families often discourage students from pursuing TVET programs, in turn reinforcing the stigma associated to it (Essel *et al.*, 2014).

Pathway for transition: available models of collaboration

There are distinct forms of post-secondary vocational education emerging in countries all around the world. Numerous examples are available on how these countries have created transition pathways from TVET to university, through collaboration. These include programs ranging from restricted entries to open door policies, providing articulation opportunities for students who are willing to avail university degree that is required for further advancement in their career. Such collaborative alliances between TVET and universities have taken place in areas such as teaching, professional skill development, research and development, consultancy and promotion as well as marketing (Sommerlad *et al.*, 1998).

In the developed countries such as Germany, Belgium, Spain, and France, the link between vocational education and higher level education is stronger, ensuring flexible pathways (OECD 2012). In countries such as Norway and Spain, it takes the form of hybrid programs that offer TVET and academic programs in an integrated manner (Souto-Otero, and Ure, 2012). In the Czech Republic, TVET provision is based on an open door policy, providing greater transition opportunity and pathway from TVET to higher education (Kanóňáková *et al.*, 2016). It also provides scope for participation and collaboration of different social partners, in the preparation of the TVET curricula.

One of the most cited examples of collaboration between university and TVET is the dual-sector universities in Australia that provide integrated technical and further education (TAFE), while the university level programs are carried out in partnership with each other. Such collaboration allows geographical and academic closeness to the universities and the vocational education providers, bringing together both of the sending and receiving institutions for the benefit of the students. It results in the highest level of transfer to higher education. The associate degree at the Deakin University, for instance, under the Deakin at Your Doorstep program, provides an opportunity to the TVET students to achieve skills that are required to succeed at the undergraduate degrees at the Deakin University.

Imperatives for collaboration: the national context

To identify the critical contingencies for collaboration between TVET and universities in Bangladesh, this part of the paper relies on a combination of data from secondary sources as well as unstructured interviews of TVET experts, and students from TVET institutions and universities. The conversations took place without any predetermined questions and the discussions were transcribed to find themes directing to identify key contingencies. The key

theme that has emerged from the interviews is general dissatisfaction regarding the current system of TVET. The sub-themes include: negative societal perception of TVET, inadequate resources for the TVET institutions, inadequate job and career progression opportunity for the TVET graduates, limited opportunity for higher education, and inadequate information on TVET in general. Literatures on TVET in Bangladesh support the experience shared by the students and TVET experts in the interview.

Educational system in Bangladesh is comprised of three key streams of education: the general educational stream, religious educational stream and the TVET stream, organized horizontally, in parallel to each other, having links at selective entry points. These streams are then vertically organized into different levels (Bashar, 2011) comprising of:

- primary education, (the first five years of schooling);
- secondary education (five years of schooling after completion of primary education);
- the higher secondary education (two years of college in between secondary and post-secondary education); and
- the tertiary level of education, including a broad range of degree programs.

In comparison to the academic programs, the TVET stream of education in Bangladesh enjoys a relatively lower social status (IOM, 2017). Majority of the students aspire to enroll in the mainstream general educational schools and religious educational madrassas, and only an insignificant segment enrolls in the vocational schools (IOM, 2015). Here, a university degree is seen as a pathway to social mobility, even when it does not lead to employment or more earning.

In the TVET stream of education, educational qualifications are offered at four levels:

- Short courses, below Secondary School Certificate (SSC);
- Secondary School Certificate (SSC)-Vocational and Business Management (BM);
- Higher Secondary School Certificate (HSC)-Vocational and BM; and
- Diploma courses, at the post-secondary TVET level.

The post-secondary TVET in Bangladesh refers to the Diploma program, at the level six of the National Training and Vocational Qualification Framework (NTVQF), in between the higher secondary and tertiary education. At this level, TVET is provided primarily by the polytechnics and mono-technic institutions, under the auspices of the BTEB (Haolader *et al.*, 2017). The key objective is to produce a mid-level technical supervisory workforce, with employable skills in different specialized areas (Bashar, 2011).

Both the public and the private sector offer TVET in Bangladesh, of which the private sector TVET providers comprise around 95 per cent of the total number of the institutions and 86 per cent of the total intake of learners (Mia and Karim, 2015). There are currently 113 government institutions offering Diploma in Engineering program, while 1179 private institutions are offering similar programs (BTEB, 2018).

The duration of the Diploma programs range from three to four years and the target students are generally students who have completed ten years of schooling. Among the technologies offered and accredited by the BTEB for certification, the most popular ones are:

- Diploma in Engineering – specializing in Civil, Computer and Electrical and Electronics;
- Diploma in Textile; and
- Diploma in Health Technology – specializing in Laboratory, Patient care and Dental (BTEB, 2018).

In 2016 the number of students enrolled in the Diploma in Engineering programs in Bangladesh was around hundred and ten thousand, which had increased to thirty three hundred thousand in 2017 (BTEB, 2018).

The government has recently taken a number of initiatives, in collaboration with development partners, to revitalize the TVET sector, such as formulation of the National Skills Development Policy (NSDP) 2011, and the NTVQF 2008. The NSDP aims at guiding the skill development strategies of the country for developing skilled workforce through TVET, and contribute in achieving the goal of attaining middle income country status by 2021. The NTVQF is an eight level framework, including two pre-vocational levels, specifying knowledge and skills qualifications required at each level, and equivalence of technical qualifications with the general academic educational qualification (ILO, 2012). However, NTVQF does not include tertiary qualifications.

The National Skill Development Council (NSDC) is the apex body for formulating and advocating skills development policies and actions in Bangladesh. With the enactment of the National Skills Development Authority (NSDA) Act 2018, the government aims to upgrade it into the National Skills Development Council (NSDC). Currently under the guidance of NSDC, the two agencies that play the key roles in governing the TVET sector in Bangladesh are the Technical Education Board (BTEB), and the Directorate of Technical Education (DTE). DTE is responsible for setting policy frameworks on TVET in Bangladesh, while BTEB is the regulatory agency that is responsible for maintaining the qualifications framework for TVET, setting standards for training and student assessment, certification of results, and accreditation of public and private TVET institutions.

Post-secondary technical and vocational education and training and transition pathways in Bangladesh

The scope of transition from TVET to universities in Bangladesh has been very selective, reserved especially for the highest achievers at the HSC level (Oxtoby, 1997). For students who have completed HSC-Vocational, the scope for applying into the universities is wider than students who have enrolled into the post-secondary Diploma programs right after graduating SSC. After completion of HSC-Voc, students can apply to any public university, given that they meet the basic admission requirements. However, in the admission test TVET students are required to compete with students from mostly the general education stream, in question papers based mostly on the syllabus of the HSC general education.

For the Diploma graduates, without HSC certificate, there is only one public institution that offers admission in the Bachelor's program – the Dhaka University of Engineering and Technology (DUET). However, the number of seats for admission in this institution is very limited – about 520 every year, which is less than 1 per cent of the Diploma graduates eligible to apply every year. The Associate Member of the Institution of Engineers (AMIE) provides Diploma graduates an alternative opportunity to get the BSc in Engineering degree and enlist as member of Institution of Engineers (IEB). Degree from AMIE is considered as an equivalent to degree from any government university. Students, who aim to join vocational teaching, may enroll in one year Diploma in Technical Education in the government Technical Teacher Training College, which make them eligible to enroll in the BSc in Technical Education program.

Unlike public universities, several private universities provide the Diploma graduates with the opportunity to enroll in the Bachelor programs, with varying degree of credit transfer. However, as these institutions are privately funded, the cost of the programs is often less affordable for students coming from a humble background.

One of the key problems that the students and TVET experts have experienced is inadequacy of reliable information, on: the equivalence of TVET qualifications to the qualification in general stream of education, credit transfer, and future prospect of TVET. It has been creating confusion and uncertainty for them during and after graduation. In a study by [World Bank \(2006\)](#), it was similarly observed that there has been virtually no way for students, employers, training providers or other stakeholders to get consolidated and reliable information regarding TVET in Bangladesh (World Bank, 2006). The key sources of information have been the government circulars and websites, as well as different informal social media platforms such as Facebook and personal blogs.

Changing skills requirements

In several of the recent studies it was found that considerable skills gap exists at the supervisory and managerial levels of industries in Bangladesh such as textiles, knitwear, leather and footwear ([Islam et al., 2017](#); [Islam and Islam, 2018](#)). This has often compelled organizations to hire foreign workers at these levels in the RMG sector. [Ahmed \(2016\)](#) has observed that employers do not value the skills acquired through current TVET system and emphasis is on transferable and soft skills that TVET or general education does not offer effectively. The GoB, with funding from the Asian Development Bank, has recently started implementing the Skill for Employment Investment Program (SEIP) in partnership with several public and private universities. However, access to the post-graduate Diploma programs offered by the Executive Development Centers in these universities are as well restricted to the university graduates, making it difficult for the Diploma graduates to develop skills set required for career progression.

Critical contingencies for collaboration between polytechnic institutes and universities

Drawing on the resource dependency and institutional perspectives, the analysis of the imperatives for collaboration between TVET and universities, at the global and national context, suggests the following critical contingencies for such collaboration:

- As universities and polytechnic institutes are heavily dependent on the GoB for funding and institutional environment, forming collaboration and network with each other is likely to benefit them in advocating policies and framework to develop successful articulation programs. They can jointly lobby for public and donor funds, based on the argument that their collaboration belongs to the social service domain and also is a new initiative to address the inequitable nature of TVET.
- Collaboration between polytechnic institutes and universities in Bangladesh is necessitated by national and international mandates in favor of TVET, and the SDGs in general. Such collaboration is likely to increase legitimacy of universities through their compliance to institutional expectations to engage and contribute in achieving the SDGs, and respond to changing labor market. Polytechnic institutes are likely to gain legitimacy as well, by improving their image and reputation, being associated to universities as institutions enjoying higher social status.
- The inequitable nature of TVET is not possible to address unless universities support and collaborate with polytechnic institutes to broaden employment opportunities for students, through access to higher education, otherwise be unable to get such opportunity.
- Collaboration is likely to enhance efficiency by reducing excessive stress on the general education, as students will not consider TVET as a dead end and will be

motivated to enroll in TVET. It would increase the competitive advantage of collaborating universities, over other universities who will not form collaboration, while ensuring access to an excluded group of students.

A proposed model of collaboration between polytechnic institutes and universities

The domain for collaboration between polytechnic institutes and universities in Bangladesh is currently in an unorganized state, as the key stakeholders have not attempted to reach to a consensus to form collaboration for transition of Diploma graduates to universities. This stage requires that a convener, individual or a small group of stakeholders guide the primary process and identify required resources for such collaborative efforts. While the GoB can naturally act as the convener, this paper proposes that a group of representatives from the universities and polytechnic institutes to form a taskforce and convene the collaboration for transition of Diploma graduates to universities. Similar to the Australian Vice Chancellors' Committee's Credit Transfer Committee, this taskforce may include the vice chancellors of universities and principals of the polytechnic institutes.

The next step is to identify the key stakeholders and ensure that they accept the legitimacy of each other for being in the collaboration. Once stakeholders are in agreement to work together, a common objective, based on the common definition of the problem domain is required to be formulated.

The key stakeholders who can contribute in developing the common objectives at this stage are the NSDA, BTEB and DTE, representatives from public and private universities, especially from technological universities, representatives from the polytechnic institutes, federation of different industries, civil society, and media. These actors can work together to support policy, framework and action plan to promote transition from polytechnic institutes to universities.

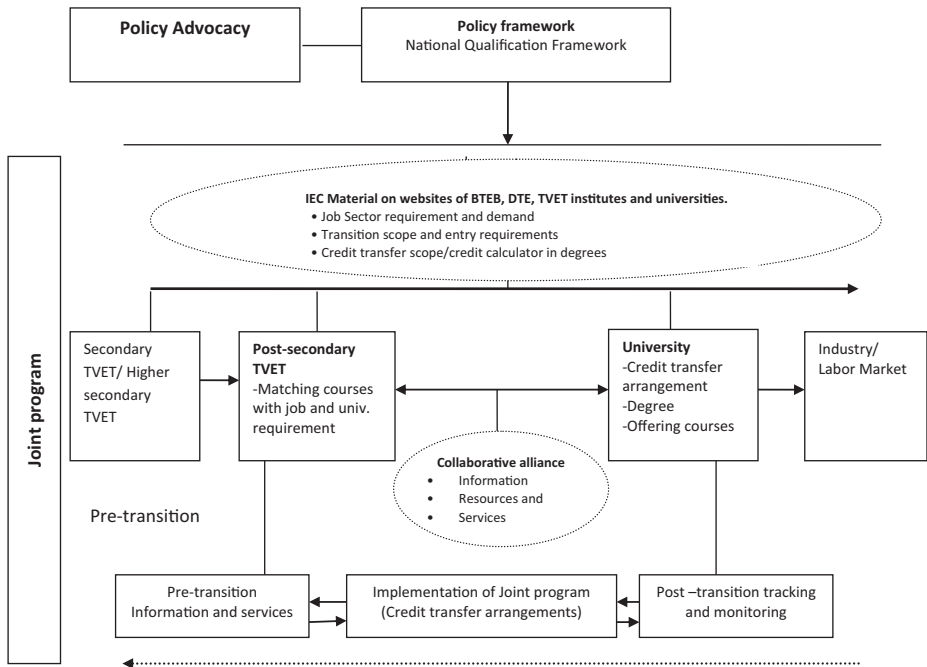
The next stage is formulating action plan and implementing guideline for collaboration to create flexible pathways from polytechnic institutes to universities. The following figure (Figure 1) outlines a model for collaboration for credit transfer and articulation of Diploma graduates to universities. Three key types of interventions are identified to be included in the plan for collaboration:

- Policy advocacy for formulating National Qualification Framework (NQF);
- Joint program for credit transfer and transition; and
- Information, Education and Communication (IEC) materials.

While policy advocacy should be a long term intervention to advocate for NQF, the joint program for credit transfer and transition can initially take the form of a short term agreement for credit transfer, and after a couple of years can be extended by the parties involved.

One of the key challenges for the development of joint program for credit transfer between polytechnic institutes and university would be the absence of national qualification framework (NQF) in Bangladesh. To facilitate the credit transfer and articulation program, assessments of relevance and equivalence of programs and courses, with identifiable educational and vocational similarities across institutions would be required. This can assist in operationalizing the recognition of prior learning (RPL), reduce overlap and repetition, and ensure efficiency. Once a credit transfer and articulation agreements takes place,

Figure 1.
A proposed model of
collaboration between
polytechnic institutes
and universities



developing the exam procedure and common grading frameworks, to be utilized in the partner institutions, would be necessary.

The next action would be to decide the amount of credit to be granted for the Diploma graduates wishing to enroll in universities. Should it be full “one for one” recognitions or only fractional recognitions? A system wide block credit recognition should be preferred to be applied automatically and efficiently as a student’s right rather than a negotiated privilege for them. Similar to Malaysia, micro-credentials can be introduced that can be accumulated into a diploma or degree.

To address the inadequacy of information on TVET, common IEC materials, both online and offline is required to be developed for dissemination through a common database. The key information that needs to be included in the IEC materials include: job sector requirements and demands in relation to the TVET sector; scope of transition between TVET and university, specifying the entry requirements; and credit transfer arrangements in different universities. Following the example of the University of Adelaide, a credit calculator, to support students to assess potential for credit transfer opportunities, can be developed.

The collaborative program should include both pre-transition and post-transition interventions. Before transition students can be benefited from courses offered by the universities to prepare the potential students for the university level courses. Experience of TVET- university partnership in Australia suggests that such arrangements are necessary (White, 2014; Abbott-Chapman, 2006). Once transition takes place, there must be monitoring and evaluation of the success of transition from polytechnic institutes to universities.

Conclusion

Transition pathway from TVET to universities has gained significant attention in recent years, as a way to ensure better earning opportunity and career progression for the TVET graduates. To ensure flexible transition from TVET to higher education, many universities across the world have set examples of successful collaboration with such institutions. In Bangladesh TVET has been a relatively underprioritized stream of education, and also enjoys a lower social status, in comparison to the general and religious educational stream. While the GoB has expressed significant commitment in revitalizing the sector in last few years, key emphasis has been on increasing the rate of enrollment in TVET as well as increasing the number of TVET institutions. Initiative to form collaboration to ensure flexible transition opportunities for the Diploma graduates, to access universities, has been almost inexistent. This paper aimed at proposing a model of collaboration between polytechnic institutes and universities as mechanism to address the inequitable nature of TVET in Bangladesh. Drawing on the resource dependency and institutional perspective to collaboration, this paper identifies the key motivations, as critical contingencies for forming collaboration and proposed a model of collaboration between polytechnic institutes and universities. The model includes: policy advocacy for NQF, joint program credit transfer and transition, and development and dissemination of common IEC materials. The key arguments in favor of such collaboration is that it will:

- improve social status and acceptance of TVET in Bangladesh;
- address the inequitable nature of TVET by allowing higher income opportunity and greater mobility for students, especially from humble socio-economic background; and
- provide a platform for interaction for all like-minded actors to advocate for promotion of TVET.

The expected result of such process is to meet changing labor market needs, reduce unemployment and inequality and contribute in achieving the SDGs.

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