Student Streaming, Technical and Vocational Educational and Training (TVET) and Career Guidance:

An Overview of Models and Concepts

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Helmut Zelloth: Senior Specialist in Vocational Education and Training (VET) Policies and Systems at the European Training Foundation (ETF), Turin, Italy.

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Student Streaming, Career Guidance, Technical and Vocational Educational and Training: An Overview of Models and Concepts

Streaming: Background and Brief History

Streaming: An Ancient Past

Streaming has been an integral feature characterising the evolution of work over the ages. In the past, the allocation of work roles seems to have been characterised across cultures by a high degree of *automaticity*. Skills and trades ran in families or within groups and expertise related to a particular profession was transmitted from the adult to the young within the family or through *apprenticeships* offered through guilds of professionals. This pattern of work behaviour seems to have prevailed across almost all civilisations (Donkin, 2010). A further feature of occupational role allocation in the past was that the *majority* of the available workforce was streamed toward what we now describe as careers based on technical and vocational education and training (TVET) (Thapar, 1966). After a certain point, educational pathways turned the individual toward acquiring skills for a specific occupation. It was the smaller minority who were *selected* to go on toward intellectual pursuits in institutions of higher education.

Emergence of the Notion of Career and Career Guidance

Historically, occupational role allocation has been influenced by significant economic, social, and political revolutions. Marxism, for example, transformed the then prevailing notions of labour, work, worker, and employer. Similarly, momentous social and economic transformations caused by the Industrial Revolution and the Protestant Reformation in Western societies led to the earlier, long-established customs of occupational role allocation becoming redundant. Within the capitalist political economy, people could now approach work as a vehicle for personal growth and development, closely connected with the fulfilment of personal desires. Thus was born the concept of career, which tends, in a Western context, to be a "personal engagement with the world of work characterized by the exercise of volition and the delineation of personal suitability, requiring preparation and specialization for ongoing, lifelong development" (Arulmani, Bakshi, Leong, & Watts, 2014, p. 5).

With new occupations rapidly emerging, fitting people to jobs based on their abilities became an urgent requirement and vocational/career guidance appeared as a method to support the new work ethos (e.g., Parsons, 1909). The earliest form of career psychology focused on developing systems whereby people's traits and characteristics could be reliably identified and matched to jobs that corresponded to these personal features. In the past, when the allocation of work roles was grounded upon social and cultural customs, the necessity for this kind of counselling and guidance was perhaps

not required. However, with contemporary re-definitions of work, career guidance has an important role to play.

Manifestation of Career

A key point to be noted is that career manifested itself as an aspect of work in a Western, industrialised context in response to powerful social and economic transformations that were peculiar to those contexts. Further, these are cultures founded on the principles of *materialistic individualism* that celebrate the individual and his or her desires, interests, and attitudes. In these cultures, the freedom of the individual for self-determination is a deeply cherished and protected value. In cultures and economies that did not come directly under such influences, human engagement with work seems to have proceeded as it had for centuries earlier (e.g., Donkin, 2010; Thapar, 1966). Large sections of the global workforce, including those in the so called emerging economics, are even today characterised by pre-industrial features and career as it has been portrayed above does not exist in these cultures and economies. More often than not, these are cultures that are *collectivistic* in their organisation where factors other than personal desires influence the individual's engagement with work. At the same time, the forces of Westernisation and the more recent incursions of modernisation and globalisation, have been such that the notion of a personal career has become a reality in many more parts of the world. It has been observed, therefore, that,

> "Although historically the notion of career has its roots in a Western, individualistic, industrialized context, and was nurtured by a work ethic that promoted freedom of choice, global forces over the years have transported it also to many other cultural and economic locations" (Arulmani, Bakshi, Leong, & Watts, 2014, p. 7).

Career broadly manifests itself in two contexts: social, cultural, and economic settings to which it is *indigenous* and those to which it is historically and culturally *unfamiliar*. The former is a more natural, contextually consistent manifestation. The latter could be the consequence of necessity resulting from global transformations, prompting the observation that,

> "The delineation of career from work lies along a continuum. At one end is *career* in its fully developed form, at the other is a complete absence of the notion of career and along the continuum are various manifestations of the idea of career (Arulmani, Bakshi, Leong, & Watts, 2014, p 7).

Today, career has become a *form* of work.

Definition of Career

An individual's career rests on the occupational qualifications that he or she has acquired through formal education and training based on which he or she can pursue a variety of jobs. A person who has qualified as a hotel manager, for example, would be capable of holding a job in the hotel industry (e.g., front office manager), in the travel industry (e.g., stewardess, purser), as well as the tourism industry (e.g., accommodation service manager). Viewed from another perspective, the first job of someone who has qualified as a hotel manager may be front office assistant. With experience, this person could go on to become the front office manager, and rise in hotel management career pathways through jobs that carry higher and higher responsibilities and privileges. By contrast, someone else who has qualified through a short course to become an air hostess, would be capable of a job as an air hostess but it is not likely that he or she would be able to rise very far in the industry, without further qualifications. The person who has qualified as a hotel manager has the potential to develop a *career* within the hotel industry as well as other related industries, while the person who has trained to be an air hostess is at best qualified for a *job*. In other words, courses could lead to *closed specialisation paths* leading finally to a *narrow band* of job options (Trachtenberg, Streumer, & Zolingen, 2002). The narrower a person's qualifications, the more likely it is that he or she will be qualified for a job rather than a career. Career, therefore, is *more* than a job. A career is made up of a *set* of credentials based on which the person is qualified for a *number* of jobs. Career can be seen as an umbrella under which a number of jobs can exist. The notion of career brings with it the idea of life long development. Career is not only about vertical progression it is also about horizontal development and fulfilment in life (Zelloth, 2014).

Definition of Career Guidance

Career guidance is meant to assist individuals and groups of any age, at any point throughout their lives to make educational, training, and occupational choices and to manage their careers (Zelloth, 2014). Career guidance is a service that aims at helping the individual optimise personal potentials through an effective realisation of his or her social and economic roles as a worker for the lifelong development of personal wellbeing as well as the prosperity of the immediate community and society at large. This service is informed by a culturally resonant interpretation of social, behavioural, and pedagogical sciences (Arulmani, 2014). Career guidance is designed to help an individual choose or construct a career, not merely a job.

The Contemporary Labour Market

It has been commonly stated that globalisation has transformed the nature of work. Three aspects of globalisation discussed below, have a direct bearing on occupational development within developing countries and emerging economies.

International Trade

The practice of trading goods and services across international borders is an ancient one. While traditional trade focused on the buying and selling of goods that were not available locally, a key distinguishing feature of contemporary, globalised, international trade is the seeking of trading opportunities that have a *cost advantage*. In the globalized world, therefore, the exchange of goods and services can occur not merely because they are not available locally, but because it is *cheaper* to procure it from elsewhere. This has had a profound impact on local workforces, leading to loss of jobs in some locations and an unprecedented increase in job opportunities in other locations.

Global Workforce

One of the outcomes of the globalisation of trade is the emergence of a global workforce: an extensive, international pool of workers employed mainly by multinational companies connected across nations to a *global network* of job tasks and work functions. It has become possible, therefore, that the work done by an individual in a certain country does not actually contribute to the development of that country.

The New International Division of Labour

This feature of globalization emerges when manufacturing and production are no longer restricted to local economies. With an eye on lowering costs of production and increasing profits, companies relocate production processes and outsource them to locations that offer cost advantages. While this division of labour benefits the outsourcing company, it does not benefit the individual worker in such companies who is laid off or retrenched. For example, between the years 2000 and 2007, a total of 3.2 million manufacturing jobs were lost in the United States due to outsourcing (Crutsinger, 2007). On the other side of the outsourcing pipeline is the recipient country—usually a developing country offering cheap labour—where a massive increase in jobs is seen. A significant proportion of the recent economic growth and increase in Gross Domestic Product (GDP) seen in these countries is related to this new international division of labour (International Labour Organization, 2013).

The Impact of Globalization on Work Behaviour

These facets of globalisation impact the interface between culture and work behaviour in many ways. This form of globalized trade requires cultural realignments and usually it is the recipient (developing) country that is required to realign. As mentioned above, the primary motivation that underlies outsourcing is the cost advantage. When this advantage is lost, the outsourcing company moves on to another location. In 2007, in Vietnam, for example, 21,000 workers walked off their jobs from the

factory of one of Nike's largest Vietnamese contractors in southern Long An province, when their demand for a 20% pay increase to keep up with basic costs of living and improved working conditions was not met (Tran, 2007). While it is true that outsourcing offers more jobs, it must be noted that most of these jobs are at the *lower end* of the skills spectrum and are vulnerable to *external shocks* and to labour market changes. Hence, most outsourced occupational opportunities offer jobs, not careers.

It becomes a matter for significant concern when TVET policy is influenced by such trends brought about by globalisation. If expansion of TVET is in response to the increase in outsourced jobs, the resulting gains may be seen only in the short run.

Skill Literacy and Skill Mismatch

The global youth workforce is today characterised by two features. On the one hand, mainly in developed countries are highly skilled young people, who are unemployed because economic downturns have dramatically reduced the number of jobs available. Hence, these countries refer to the phenomenon of *over education*, which had led to underemployment, underutilisation of the individual's education and training, and an overall skill mismatch. At the other end of the spectrum, mainly in developing and emerging economies, is a vast workforce whose skill literacy is low. These are young people whose education has been such that while they may have a high degree of theoretical knowledge, their training has not equipped them to convert this knowledge into occupationally viable skills. This has been a strong driver for the promotion of TVET in developing countries.

TVET and the Rural Sector

As we have seen above, the notion of career is a largely Western concept. Such a description excludes from its purview forms of human engagement with work which are holistic and integrated with ways of living. Traditional and rural occupations do not easily fit into the definition of career. Yet in most developing countries and emerging economies, large percentages of the population live in rural areas. Even today, all one has to do is to step a few miles outside the cities of developing countries to enter a world of work that is characterized by pre-industrial features, where work is intrinsically linked to a community's broader life.

Rural-urban migration is an ancient phenomenon. But the pace and scale of migration from rural to urban areas that we are seeing is perhaps the highest in human history. This is particularly so in emerging economies such as Vietnam. One reason for this is that the recent increase in opportunities for employment in emerging economies is largely urban-centric in nature.

Career Guidance and the Aspirations of Rural Youth

Developing a TVET system for the rural sector requires the aspirations of rural youth to be viewed in a balanced manner. While it is true that rural-urban migration brings with it a host of other difficulties, a key question that a career counsellor needs to ask is: Is it good career guidance to put the brakes on a young person who wants to exercise the freedom to move away from his or her rural home to the city? Good career guidance would help rural youth view their wishes in a realistic manner. The career guidance task is to create the conditions necessary for rational and well-informed career decision making. In a rural setting, it is important to create an environment wherein youth have the *choice* to either stay back or migrate to a city to seek a different lifestyle. Career guidance should not in any way block the person's choices and must ensure that the individual is free to build his or her career wherever he or she pleases: in the city or at home in the village, or perhaps even work out a blend of the two. The career counsellor is not the *gatekeeper* of people's wishes to move to the city.

TVET and Rural Occupations

A commonly noted trend is that rural populations, almost by default, become designated target groups for TVET. At the same time, a large proportion of TVET courses require the individual to consider urban-centric careers. If TVET is to be relevant especially to countries such as Vietnam, it is essential that courses are created that have a direct rural focus.

Recent research has shown that poverty can be higher among the employed than the unemployed in urban areas (e.g., Institute for Human Development, 2014). This is because low earning from employment, rather than unemployment keeps people below the poverty line. The city may offer more opportunities. But not all these opportunities may pay very well. A rural youth who comes to the city is often exploited for his or her labour and paid a low wage. Hence while a rural youth may have *made it* to the city, this person may continue to remain poor.

The idea of career carries overtones of urban, higher-economic-status occupational activities related to high incomes and opportunities for potential realization. It is perhaps this differentiation that stimulates the desire to migrate to the city. However a modern career can be pursued in rural areas also. The application of science to agriculture, for example, can increase yields. Agricultural management can improve sales of rural products. Agricultural engineering is about the equipment and tools used in agriculture. Business management has been applied today to promote fair trade practices. Even lawyers specialise in the agricultural sector through specialisations such as patenting of biological products. Almost all the careers practiced in urban areas can be practiced in rural areas.

Preparing Rural Youth for Urban Careers

A further issue is that much of the workforce from rural areas does not have the skills that are required for the occupations that have emerged in the cities. A large section of them are from agricultural backgrounds or those who practiced traditional occupations. Hence, these migrants are often used in the cities as cheap, unskilled labour. This could widen the gap among social classes and create dissatisfaction and frustration, which in turn affects occupational development. If a rural young person has decided to pursue a career in the city, then career guidance must help that individual *prepare for the shift*. Some of the essential information that this person needs to have *before* arriving in the city are:

- what his or her potentials are,
- careers that can be pursued, using his or her potentials in rural areas,
- what he or she is going to do in the city *before* arriving in the city,
- the skills that are required for life in the city, such as: language fluency, career development in the city (e.g., how to apply for a job), living conditions (e.g., cost of living, food, accommodation).

Career guidance for developing world contexts must acknowledge that the manner in which individuals and groups engage with career can vary from one context to another. In the urban setting the focus of career guidance may be to help an individual discover in which occupational area (e.g., commercial art, biotechnology, or law) he or she should specialise. In rural areas, career guidance may be to help a community identify and gain modern skills to manage its traditional, rural occupations in a viable manner (Arulmani, 2014). Within such a system, a career counsellor would have to be someone who has the skills to allow the context to define the meaning of career along with the capability to understand and optimize traditional occupational structures for the modern context.

TVET and Socioeconomic Status

In comparison to other SES levels, the lower SES groups seem to be most vulnerable to discontinuities in their career development. Young people from poor homes are required to make career plans, while simultaneously grappling with poverty, unstable family structures, and financial constraints. At a practical level, families in poverty may have realistic concerns about their ability to pay for their children's further education. The task of meeting physical needs may be of greater importance to socio-economically disadvantaged individuals than seeking out information and making career plans. Survival needs in the present maybe so pressing that planning for what could come to fruition only sometime in the future may not be consistent with the reality perceptions of the young person from a poor home.

The strong predisposition of the disadvantaged to begin searching for work before acquiring work skills implies that they will only occupy an unskilled status in the world of work. This has far reaching

ramifications on the continuity of their career development. Research into the effects of premature entry into the world of work on later employment has indicated that the poorly educated are at highest risk for unemployment in their later lives (Ekstrom, Freeberg, & Rock, 1987). Others have found that those who left school at the minimum age to get work, were likely to spend most of their lives in part-time, unskilled jobs or on social welfare (Banks & Roker, 1992).

As with rural youth, TVET is often seen as the most viable career development option for youth from lower income groups. This need not be always correct. The arguments presented above for rural youth also hold for youth from economically disadvantaged homes. A relevant career counselling programme would address the question of transition from school in a person-centred manner. For some, this may mean college education, for others, it may mean vocational education. Effective counselling would enhance the individual's employability by preparing him or her to enter the world of work from a position of strength rather than disadvantage. Most importantly, a career counselling programme that takes privilege and disadvantage into account would be equipped to empower young people to maximise their talents regardless of their backgrounds.

Models of Streaming, TVET and Career Guidance

While almost every country has its own model for streaming its youth into the TVET versus university pathways, three models have been selected for this paper and are presented below. The model followed by Germany-Austria-Switzerland (referred to henceforth as the German model) has been selected and described in detail since it is one of the oldest systems, reporting the highest level of success. The models followed by Denmark and Luxembourg have been selected to present streaming from the view point of assessment, balanced by the provision of career development support.

The German Model

History. TVET in these countries has a long tradition. It has its origin in medieval times, when craftsmen of the same profession founded guilds. They supported each other and also organised the training of young craftsmen. Guilds were responsible for the training of their own new blood (Stratmann & Schlosser, 1990). This ancient tradition has continued in the form of apprenticeship based TVET programmes in these countries.

Legal status. TVET is federal law in Switzerland. The first law on VET was introduced in 1930 and has since then undergone 4 revisions, the last revision being in 2004. Since, Switzerland is a federal state, the federal law on VET forms the frame. Within this frame, each province is free to organize TVET as suited to its needs. TVET enjoys a similar legal status in Germany and Austria.

Method and purpose of streaming. Streaming in these countries is undertaken at the end of Compulsory Education, before the beginning of Upper Secondary Education, when the individual would be between 14 to 16 years of age. At this stage, the individual has to choose between TVET and General Education (High School) pathways. Within TVET, the student can choose between: Federal VET Certificate (2 years) or the Federal VET Diploma (3-4 years).

In Switzerland, about 70% of teenagers decide for the TVET pathway, the rest for High School. Streaming is primarily based on cognitive skills as indicated by the marks that the student has obtained. In certain regions, students are expected to pass entrance examinations if they wish to follow the High School pathway. Career guidance services are offered to help the student choose the type of TVET specialisation.

Framework for streaming. A critical feature of education for occupational development in these countries, is their dual system, which blends school education with apprenticeships. The individual is required to go to vocational school for 1 to 2 days a week and then work as an apprentice in a factory for 3 to 4 days, as per the requirements of the apprenticeship. All occupations have their formal associations, all practitioners of an occupation are members of the association and although it is not compulsory, they are expected to offer apprenticeships in their work places. The duration of an apprenticeship could be between 2 to 4 years, depending on the type of apprenticeship. Technical TVET courses are usually for a duration of 4 years.

Scope. Students have the option of being streamed toward approximately 150 and 344 (BIBB, 2012) occupations in the TVET-Apprenticeship system in Switzerland and Germany respectively. Examples of occupations within this system are: gardner, chef, car mechanic, carpenter, nurse, tailor, administrator, and salesperson. A number of careers also fall outside the TVET-Apprenticeship system and require the student to take up the University Pathway. Some examples of such careers are: medical doctor, lawyer, psychologist, teacher, and architect. The overall objective of the dual system is to provide ‘‘broadly based basic vocational training and the qualifications and competences required to practice an occupation as a skilled worker’’ (Hippach-Schneider, Krause, & Woll, 2007, p. 33). In 2011, in Germany about 455,000 training enterprises trained a total of 1.46 million apprentices in 344 recognised training occupations, and offered 569,000 new training contracts. This means that 56.9% of those in the age cohort were entering vocational training in the dual system (Hummelsheim & Baur, 2014).

Career guidance and streaming. Career guidance is an integral part of streaming in these countries. Career guidance is a public service and is offered in all secondary schools. All students have easy access to a career counsellor. With the help of career guidance, the student selects a particular occupation. The career counsellor helps the student identify an apprenticeship opportunity,

which matches the student's interests, capabilities, and aptitudes. However, the career guidance report is not binding on the client. The student is free to follow his or her own pathway.

Contractual obligations. The student enters into a formal, private contract with the employer, which as per a standard format sets out the terms of agreement. If an employer is not satisfied with an apprentice or vice versa, consultations are held with all the partners (employer, school, apprentice, and parents, office for VET) to try and support the successful completion of the VET programme. However, the contract can be cancelled either by the employer or the apprentice.

Financing. The cost of vocational schooling is state sponsored, while the cost of the apprenticeship is borne by the apprenticeship provider (employer). The apprentice is paid a salary and is a cost to the employer for the first two years. But during the latter part of the apprenticeship, he or she is able to make significant, independent contributions to the firm, still working for the salary of an apprentice. Hence, the employer gains in the long run.

TVET as a platform for university education. Successful apprentices receive a diploma at the end of their apprenticeship. Apprentices can also qualify for an additional vocational diploma, during their apprenticeship or after. This will open a direct pathway to a University of Applied Sciences. With an additional, fulltime diploma over 1 year, apprentices can enter the university system. For example, a student can follow a TVET program in Administration. Following this, he or she can work and simultaneously qualify for the additional vocational diplomas over a 2 year period. Following this, he or she is eligible to go on to University.

Employer-led curriculum. A critical feature of this system is that it is the employer association not the educational system that develops the curriculum for TVET. The employer associations are fully responsible for the process of developing curricula. It is acknowledged that employers are at the heart of the occupation and that they have the most accurate information based on the latest trends.

Location of responsibility. These functions are located in the German system within the Ministry of Education.

Outcomes. Evidence of the outcomes of streaming as described above may be postulated from the youth unemployment rates seen in these countries. During 2011-2012, in the midst of the global downturn, unemployment rates amongst youth in the age range of 15 to 24 years, were 8.1% and 8.4% in Germany and Switzerland respectively (World Bank, 2013). By contrast, the same study reported youth unemployment rates in countries of similar developmental status to be 14.3% in Canada, 14.1% in Denmark, 17.7% in Finland, 23.7% in France, 23.7% in the United Kingdom, and 16.5% in the United States. A statistical analysis of unemployment rates in OECD member states found that member states with a dual system had in 2012, on average, a 4.7% lower youth

unemployment rate than those with a schooling model of vocational education and training (Plunnecke & Werner, 2004).

It is also interesting to note that although a few years ago, the OECD highlighted investments into university education as key to human capital development, multilateral actors like the ILO (2012), the United Nations Educational, Scientific and Cultural Organization (2012), the World Bank (2012), and the Organisation for Economic Cooperation and Development (2011), today hold the dual system in high esteem as a modern and future-oriented VET system.

The Danish Model

Denmark does not follow a policy of compulsory streaming of students into VET or university pathways. The following Danish policies to support students' holistic development and entry into the world of work are worthy of being noted.

Assessment of readiness. Couched within a legal framework, Denmark has a system for assessing students' readiness for education. This assessment is conducted when the student is in Grade 8 (approximately 14 years of age). The assessment is conducted by trained career professionals from Youth Guidance Centres present in all municipalities. The assessment takes a qualitative approach and focuses on the student's readiness for the VET versus academic pathways. Assessment is for all students in the public education system and is conducted along three domains:

- intellectual and cognitive readiness as indicated by the student's marks,
- personal features of readiness as shown by the student's engagement, stability, and such features of personal maturation,
- social features of readiness as shown by the quality of the student's cooperation, helpfulness, and such dimensions of social orientation.

Each of these sets of competences is articulated in some detail in ministerial guidelines.

Career guidance and the outcomes of assessment. Career guidance is linked to the findings of the assessment. The guidance counsellor interacts with the student to find out which pathway the student is considering and assesses the student for that pathway. Since VET has lower access criteria in the intellectual readiness dimension, the counsellor may also suggest that a student who wants to be assessed for the academic pathway considers VET instead. This assessment and advice provided at Grade 8, allows the student nearly two years of time to use the assessment information to prepare and plan for the future. At this point, two critical features emerge, in the Denmark system, that are of importance.

- Firstly, the findings of the assessment and career advice are *not binding* on the student. He or she is free to discard the advice and attempt to undertake the examinations leading to academic pathways.
- Secondly, the student can turn to state sponsored agencies or social support programmes to receive *extra tutoring* and gain the competencies necessary to attempt entry into the academic pathway. Since the student has two years from when the outcomes of the assessment are announced, it allows him or her sufficient time to gain the competencies required to aim for the academic pathway. It may be noted that students who are planning to enter the VET pathway are also free to reach for these services to address any "gaps" that may have been identified by the assessment. Students whose assessment shows they are not ready for *either* the VET or the academic pathways become the responsibility of the municipalities who are to offer the support, training, or tutoring needed to enhance students' readiness.

Further, a new eGuidance service was launched in 2011 in Denmark. Every person in Denmark who seeks information on education and employment can now receive guidance from experienced counsellors via various communication channels such as chat, telephone, e-mail, sms, and facebook, every day of the week. The anonymity as well as the flexibility of the service has increased its attractiveness to clients.

Location of responsibility. These functions are located in the Danish system within the Ministry of Education. Interviews with officials of the Danish educational system further indicated that the functions described above are now gradually being shifted to the school system and teachers are taking over these responsibilities from career guidance counsellors. Teachers are being trained in these skills and career guidance is now being reserved in Denmark only for those with special needs, for instance, those assessed as not ready for education.

The Luxembourg Model

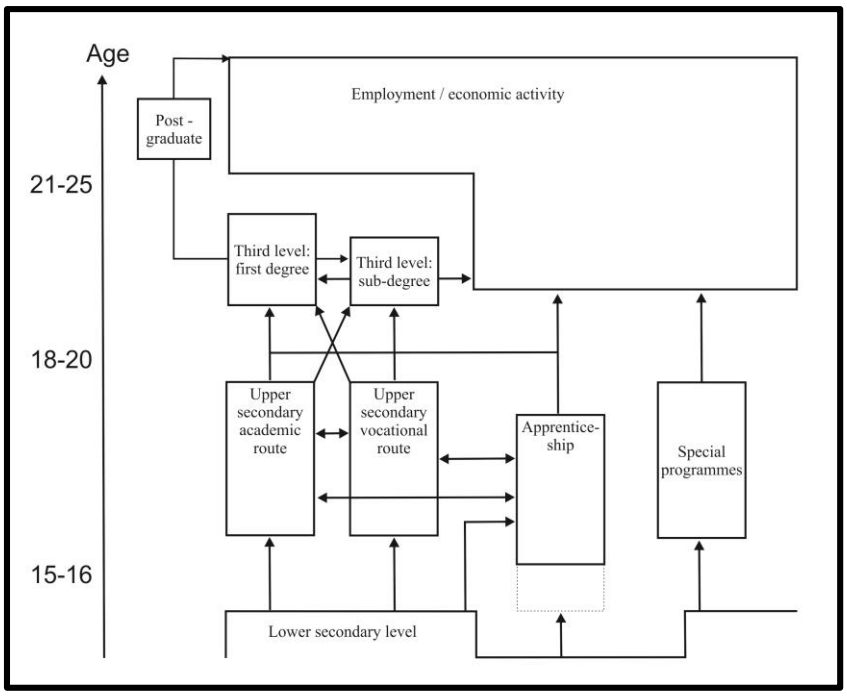
Apprenticeship based system. Luxembourg closely follows the German model and apprenticeships play an important part of the overall VET system. The duration of training varies between 3 to 5 years. A three-year VET programme with apprenticeship would lead to the status of being recognised as a *qualified craftsman* and in order to become a *master* in a craft or trade at least another 2 years of training are required. Employers who offer apprenticeships are required to hold the master diploma in order to train apprentices. Acceptance of an apprentice for training is entirely up to the individual employer. If an employer is not happy with a trainee, he or she can terminate the contract. Apprentices receive an allowance from the government during their training. A person from a VET background who has achieved the master diploma is eligible to apply to go to university. This is usually for higher qualifications in *technical* institutions. Curriculum development and updating of curricula is managed by the Ministry of Education. However, employers as well as the professional chambers are closely involved in the process.

Basis of streaming. In comparison to other countries, streaming in Luxembourg seems to be much more firm and directive and it has a legal basis. Streaming comes into play at the transition from primary to secondary school (at around age 11 to 12 years). At this stage, students have three educational pathways before them: general academic education (lycée classique), VET (lycée technique), and a preparatory (régime préparatoire) pathway. The third option is for students who are under performing. Students are taught in modules and if a student passes a certain number of modules he or she can move into the VET stream. Streaming is based on a mix of aptitude profiling and the student's academic performance as indicated by the marks he or she has obtained. Career guidance is associated with streaming particularly for assessments of the student. Psychometric testing of intelligence, personality, interest, and aptitude are used. Recommendations as to what the student is best suited for is made by a committee composed of a teacher from the *lycée classique*, a teacher from the *lycée technique*, an inspector of primary schools, and a psychologist. The recommendation of this committee is usually binding and if VET is the only option open to a pupil, he or she may have no choice other than to accept this advice. However, if parents do not agree with the recommendation, they can have their child sit for the entrance examination for either the *lycée classique* or the *lycée technique*. Success rates in these exams are low (<10%). If a child has been streamed into the *régime préparatoire*, parents can appeal to have their child's case reexamined by another board. But it is extremely rare that the original recommendation is overturned.

VET and Academic/University Pathways: Generic Components

The steps and stages of streaming and guiding students toward different VET and university pathways vary across countries. But in broad terms, the information presented in Figure 1 provides a summary of the pathways.

Figure 1: VET and Academic/University Pathways: Generic Components.
Adapted from Cedefop (2010)



The point at which milestones can emerge in a person's educational/career advancement could vary from one educational system to another. Figure 1 presents the generic milestones.

Prestige Attribution and TVET

The impact of prestige on career preferences has been documented in almost all cultures. On the whole, the data shows that prestige attributed to careers that are based on university qualifications carry remarkably higher prestige. Even in the German system, the fact that students aspire to the university pathway, indicates that even where TVET has proven to be highly successful, it is in reality placed at a lower level than university qualification. This prestige hierarchy is even more sharply evident in Asian cultures, where almost invariably, occupations receiving the lowest prestige ratings are those belonging to the blue collar and vocational category (e.g., Arulmani & Nag-Arulmani, 2005). A TVET qualification is seen as second-best when compared with university education and the TVET pathway is seen as the career path for the poor or for those who are less capable. Other research in India and other Asian countries (e.g., Arulmani & Abdulla, 2007; Arulmani & Nag-Arulmani, 2005) indicate that families (particularly middle class), want to see their children holding white collar jobs and working in smart looking offices. Working with one's hands is seen as menial and inferior. Therefore, TVET type of qualifications are not spontaneously sought after. It is critical that these deeply held career beliefs are addressed, if the implementation of TVET is to be successful.

An interesting departure from this overall trend has been reported in a study by Arulmani and Nag-Arulmani (2005) that focused on Indian young people who were already in vocational courses. Nearly 70% of this sample indicated that they initially had misgivings about vocational courses and took them up because they had no other option. But once they entered the course, their opinions about the ways in which the course would help them in their future changed for the positive.

TVET: Implementation Formats

Drawing upon the points presented above, the following implementation formats for TVET can be identified.

Types of TVET

TVET is a generic term and it is useful to understand that it can be implemented at different points along the individual's career development pathways.

Initial Vocational Education and Training (IVET). This is VET that is offered soon after the individual completes compulsory education. Instead of continuing through general education within the school system, IVET offers the student the possibility of bypassing secondary education and

moving directly into vocational education. The German and Danish models described above are examples of IVET.

Post-secondary VET. As the term indicates, these are VET programmes that an individual can opt for after completing secondary education. Here, the individual completes higher level of qualifications in general education and then moves into vocational education.

Continuing Vocational Education and Training (CVET). These are VET courses that are offered over and above, independently, or in parallel with general education. They could focus on objectives similar to IVET or on upgradation of existing VET skills.

In countries where there is no vocational education and training, of course all VET programmes could be considered as IVET. However, this is rather the exception than the rule.

Vocational Subjects.

In some countries, students are offered a vocational subject at the secondary and higher secondary levels. The Central Board for Secondary Education in India, for example, offers vocational, job oriented subjects at the higher secondary level such as Health and Beauty Studies, Transport Systems and Logistics Management, Horticulture, Accountancy and Auditing, Electrical Technology, and Air Conditioning and Refrigeration Technology. Thirty-six such vocational subjects are offered along with the regular curriculum. This format has the advantage of exposing the student to vocational courses and thereby reducing the negativity in their career beliefs about TVET. It also improves their career development viability, irrespective of whether they later move into VET or university pathways.

TVET as a Stand-Alone System

This is perhaps the most common format whereby a TVET programme is offered as an independent course leading to a certificate or a diploma. Going by the trends reported above, it is such courses that receive the *lowest* levels of prestige attribution. Studies further suggest that industry's current human capital needs are not being met by countries' TVET programmes. Better alignment between the skills gained in TVET training and the needs of industry and business are called for to optimise investments into TVET (e.g., Hummelsheim & Baur, 2014).

TVET Blended with Apprenticeship

This has been described in detail in the German model reported above. In summary, three key features seem to distinguish this model:

- The first is the dual system that blends scholastic education, with apprenticeships.
- The second is that it is employer-led.
- The third is that it offers clear, achievable pathways for the student to move from TVET qualifications into the university stream.

TVET and Streaming: Evidence of Impact

Evidence of the outcomes of streaming and TVET are not easily available and it seems that not many such studies have been conducted. Against this background, a systematic review of 26 studies conducted by Tripney and others (2013) on post-basic TVET interventions to improve employability and employment in low and middle income countries presents some interesting findings. This meta-analysis found that the overall mean effect of TVET on paid employment, on formal employment and on earnings was positive and significant, and on weekly hours worked was positive but non-significant. The authors of the study warn, however, the effect sizes were small and that causality between TVET and positive outcomes cannot be assumed from the study. It is important to note that as per this meta-analysis, the overall mean effect of TVET on *self-employment* earnings was negative and non-significant.

Viewing the long term outcomes of streaming and TVET from observational evidence indicates that university based education gives the individual greater career development flexibility during periods of economic stability. However, it must be noted that during the global financial crisis and subsequent jobs crisis those with TVET skills, particularly in certain occupational areas, fared better in terms of keeping their jobs than those with higher levels of education.

Streaming and Career Guidance: The Controversy

As indicated at the beginning of this paper, in the past, streaming was almost a natural part of the individual's entry into the world of work. A wide variety of socially, culturally, and economically sanctioned mechanisms moved the workforce of a society toward certain occupational pathways. Today, with the emergence of career, streaming is not as natural as it was earlier. The individual today has the freedom to *choose* which occupational pathway he or she wishes to pursue. Also, a wide variety of social, cultural, political, and economic factors influence the choice process. It is here that the exercise of streaming has acquired controversial overtones. A common trend in (mainly developing) countries today is to turn students away from a general education/university pathway that does not guarantee employment and move them into technical and vocational education and training in order to give them a trade and thereby improve their chances of positive occupational development. Scholars, who view career development from a social justice angle, indicate that career guidance should not be used by governments to stream students towards a vocational track if such training leads to merely to a job and thereby to a lower status in the occupational prestige hierarchy. They

view such policies as a form of institutionalised *social control* (e.g., Plant & Valgreen, 2014; Sultana, 2004).

A further point to be noted is that the notion of *skill* seems, by default, to have become associated with TVET. This need not be the case. The longest lag periods between qualifying for a career and actually entering a career seem to be associated with the lack of skill literacy in the career aspirant (Arulmani, 1998). Skill, in this sense, is not limited to the dexterity with which a person handles equipment and tools or to TVET type of careers. Skill literacy is the fluency that a person develops for the practice and application of the theoretical concepts that comprise a body of knowledge. Even a highly theoretical field of study requires a set of skills with which to actually interact with the constructs of that field. A historian, for example, requires skills for referencing and research, just as a psychologist needs skills to listen with empathy.

Factors Influencing Streaming, TVET, and Career Guidance

A number of psychological, pedagogical, cultural, and economic factors are involved with streaming, career guidance, and TVET. These are often ignored and not given the consideration they deserve.

Age and Initiation of Streaming

Some of the most far-reaching career decisions are made between the end of high school and the end of the higher secondary years. Generally speaking, four orientations to career development are manifested at this stage in the emerging economy context: begin working with no qualifications, pursue college education, enter vocational training, or no career plans. This is both a function of the young person's maturation for decision making, as well as requirements from existing educational systems. The point being made here is that, broadly speaking, such decisions are being demanded of an individual when he or she is around the age of 13 to 16 years. At this age, the individual is not yet *developmentally* ready to make a reasoned choice. Developmental and career psychologists have consistently pointed out that the growth and development of an individual benefits from environmental stimulation almost until his or her early adulthood (e.g., Garlick, 2002). It is also well known that the broader this stimulation is, the deeper and wider is the growth of the person's abilities and talents (e.g., Gottfredson, 2003). Studies have found, for example, that schooling that allows the learner to be exposed to a wide range of learning experiences significantly enhances the development of the individual's intelligence (e.g., Cahan & Cohen, 1989). While development is a lifelong process, the crystallisation of personal interests and abilities cannot be expected to be stable before the age of at least 18 years. While it may be true in the German model that many students who were streamed into TVET pathways at the age of 14 years are well settled into their careers, it will never be known whether they were actually better suited for a different career. In summary, psychological evidence points to the strong possibility that when streaming is *premature*, it could stunt

the individual's growth and development. TVET policy that aims at early streaming could be criticised as being an *imposition* on the individual since such policies are centred on economic viability, at the cost of a person-centred approach to career development.

Criteria for Student Selection for Streaming

The point made above leads us to the question of the criteria that can be used to identify students and advise them about their suitability for TVET pathways.

Looking back at the examples of the models described above, the point that emerges is that a critical factor for advising the student is his or her *suitability profile,* first for TVET versus university pathways, and secondly, for which *type* of TVET occupation he or she would be suited. This is an important role that career guidance plays. Career guidance techniques such as interviewing the student and data from standardised psychometric test batteries would offer valuable and useful information to stream the student as accurately as possible.

TVET Destinations

Helping the student understand what kind of career path lies before him or her, *before* he or she enters a TVET pathway is critical. This is a career guidance function and would inform the student about the difference between job and career, the nature of the jobs he or she would qualify for and through which TVET pathway. It would include helping the student understand the overall educational system of which he or she is a part.

Ongoing Educational Possibilities

One of the criticisms against streaming is that TVET pathways often do not connect with general education/university pathways. If streaming is to answer the questions of equity and social justice, it is important that the educational systems within a country offer possibilities for ongoing education after a person has achieved a TVET qualification. Bridges are required between vocational and academic tracks to offer all forms of mobility for all members of an economy.

Advocacy

Students often approach career planning with biases. "Degree is better than diploma", or "TVET is only for those who are of low abilities", are examples of career beliefs that reflect such biases. More often than not, it is such misconceptions that drive career choice rather than well thought out plans. An important component of career counselling would be to address such ideas and beliefs. An Asian Development Bank sponsored career guidance project offers an example of how the principles of

social marketing were used to help students better understand TVET careers (Arulmani & Abdulla, 2007). At the same time, it is vital to note that it is not the objective of career counselling to *convince* young people that they ought to take up a TVET or a university pathway. Instead, a fundamental concern of career counselling would be to help the young person make choices based on sound information about personal interests, talents, and the world of work.

The Future of Work

The future world of work is no longer likely to offer jobs that could be pursued for the entire span of an individual's working life. The worker of the future is likely to be required to make several job shifts over one life time. Career success is going to be dependent on the constant updating of knowledge *and* skills. Knowledge or skills by *themselves* are not going to be sufficient for ongoing career success. Within this context, learning must perforce be redefined. Careers in the future world of work require *broad learning foundations* that leave the option open for ongoing learning and skill development. It is essential that educational, particularly TVET, systems reduce their focus on curricula that lead to *closed specialisation* paths (Tractenberg, Jan, & Zolingen, 2002). In other words, training courses leading to a *narrow band* of job options are likely to decrease in their relevance. Educational foundations that offer the flexibility for career change over the course of one's life are the need of the future.

Points for Consideration

Transfer of Models for Streaming, Career Guidance and TVET

The German model has been much spoken of and a number of countries have attempted to replicate the model into their contexts. However, examining the potential for transfer of the model to Asia, German scholars have indicated that "…while the dual system can serve as a model, no other country can implement the dual system as a whole, or components one by one" (Hummelsheim & Baur, 2014). This is because the system has evolved over many decades under unique conditions and is grounded in a certain political, legal, social, and economic environment. The system has been continually evolving and modernising in response to the labour market environment unique to these countries. Today, it is a complex system containing multiple learning venues and financing patterns that cannot be easily replicated outside these contexts. If a transfer is to be considered, Hummelsheim and Baur (2014) recommend that the following five key elements are addressed:

- Societal acceptance of standards and the spirit of vocational education and training
- Close cooperation between the state and the private sector
- Training of vocational teachers and instructors
- On-the-job learning

- Institutionalised research and career guidance

Hence, experts of the dual system strongly advocate that a transfer must reflect the existing conditions of the receiving country and must be adapted to its unique social, cultural, and economic objectives.

For Consideration:
Vietnam has its own age old systems for work-based learning and apprenticeships. Many of these systems still thrive all around the country, particularly in the rural areas and in relation to traditional occupations. Can these traditions be modernised and brought into the Vietnamese TVET Framework?

Streaming: Individual Choice versus Social Control

Compulsory streaming of young people into TVET or university pathways and institutionalised streaming seems largely a method of occupational role allocation of the past. However, the fact remains that while TVET based occupations offer better career prospects, it is a pathway of lower preference amongst the general public. Some of the matters that merit consideration are:

- The congruence between the age at which the individual is required to make educational choices and his or her psychological and developmental readiness to make such decisions.
- The extent to which freedom of choice is preserved when having to make educational and occupational choices.
- The extent to which career guidance is available to help the individual gain insights into his or her talents, learn about the world of work, and then make informed decisions.
- Conduct systematic assessment and offer students and their families, adequate feedback, well in advance, so that the student could strive to reach the necessary competencies for the pathway that he or she wants to pursue.

For Consideration:
In the three models cited above, streaming leans more toward guidance based on sound principles of assessment and career counselling. To what extent can career guidance be formally instituted in Vietnam, to help students and their families identify and understand the most viable pathways?

Personal Development versus Labour Market Trends: Finding the Right Mix

In the developing world context, people need jobs and TVET can provide the training for these jobs. At the same time, TVET has been criticised as tending to lead to closed ended specialisations, preparing students for narrow band job options. Furthermore, changes in the global economic trends

have shifted a large number of jobs to emerging economies. A tendency that has developed is for TVET courses to skill workforces to take up such jobs. However, many of these are low skill jobs and tend to be unstable, with poor possibilities for sustained career development in long term. The contemporary and future world of work requires workers with a wide range of competencies through which they can sustain their career development. It is important that while TVET prepares students for the labour market, it also prepares them for entry into tertiary/further/higher education later in their lives. Matters that need to be addressed are that TVET curricula:

- do not lead to a single target occupation,
- pay sufficient attention to general academic skills as well as practical skills such that students gain competencies that will allow them to continue to learn at the post-secondary and tertiary levels.

For Consideration:
How can the Vietnamese TVET Framework find the balance between preparing the individual for the labour market and at the same time offer a platform for the individual's holistic development providing a foundation for lifelong learning and responsible citizenship through a successful career?

Permeable Educational Structures

A further criticism against TVET is that it leads students away from the possibility of university education. Degrees are much sought after in almost all parts of the world and the possibility that entering a TVET programme means that one may not be able to earn a degree, decreases the attractiveness of TVET. In addition, from a social just view point, TVET structures that do not allow learning and education through other pathways could be viewed as being unjust. Matters that need to be addressed are:

- Create an educational structure wherein TVET and university pathways are not mutually exclusive.
- Integrate TVET systems with the overall educational system and allow for the possibility of shifting to university pathways, if an individual desires to do so.
- Offer students who have been streamed into TVET clear, achievable possibilities of returning to university or any other pathway which he or she wishes to try over the course of his or her life.

For Consideration:
Aim for the horizontal and vertical permeability of educational structures.

Institute Sound Career Guidance Services

Career guidance can play a vital role in optimising the workforce. Navigating through educational and career development pathways has become complex and confusing. Career guidance could help young people to understand these processes and make these decisions. Matters to be considered are:

- Institute career guidance as profession for the country and provide adequate resources for the training of guidance professionals and for the delivery of career guidance services.
- Develop a career guidance method that is a culturally grounded, psychologically sound and economically relevant.
- Ensure that the service is available to all young people and all workers at different stages of their career development.
- Ensure that the system is well informed by labour market information.
- Build a comprehensive network by creating partnerships with employers.

For Consideration:
A career guidance system already exists in Vietnam. Strengthen this system by making it more modern and culturally and economically relevant to the needs of Vietnamese students and youth.

Enhance the Value and Prestige of TVET

Except in very few countries, TVET is placed at a lower level than university and TVET based occupations are seen as being for underprivileged and less capable people. Also, TVET institutions are commonly viewed as being under equipped, using outdated methods and equipment. If TVET is to gain acceptability some of the matters that must be considered are:

- Enhance the quality of TVET curricula and TVET teachers.
- Enhance the status of TVET teachers particularly avoiding placement of TVET teachers at lower levels of remuneration than school or university teachers.
- Ensure that TVET students have access to the latest instruments and tools of their subject either through the TVET institution or through direct partnerships with industry.
- Advocacy for TVET through strong endorsements, promotion, and social marketing particularly showcasing the employment potential of TVET based courses.

For Consideration:
Use career guidance to expose students to the value of TVET by including TVET information in career guidance workshops. Train and include TVET teachers in career guidance programmes for school students.

Involvement of Employers, Unions, and other Stakeholders

In the final analysis, one of the important goals of all forms of education, TVET or university frameworks, is to prepare the individual for the world of work. A strident criticism against both systems is that graduates are not adequately prepared for the world of work because curricula are out of touch with the realities and students do not receive adequate work-exposure during their training. A well-known feature of the German model is that both curriculum development and training are employer-led. Matters for consideration are:

- Formalise systems for apprenticeships, work-experience, internships, work shadowing, career fairs, and activities that will bring the student closer to the world of work.
- Create viable opportunities for part-time work for students during their studies as a part of curricular requirements.
- Create formal systems for partnership between VET institutions and industry both for students as well as VET teachers.
- Formalise industry-exposure as a requirement for the professional development VET teachers.
- Formalise systems for work-place learning during VET.

For Consideration:
Include employers and industry in the curriculum development process and development of qualification frameworks.

Career Guidance and TVET: Location of Responsibility

As seen in the examples cited above, career guidance and TVET are most commonly located in ministries related to education rather than labour. A common criticism of career guidance counsellors is that they are often out of touch with labour market trends and labour market dynamics. At the same time, locating TVET within ministries related to labour might not be appropriate since educational and training aspects are central both to career guidance and TVET. Matters to be considered:

- Consider TVET as a form of education rather than a system of preparing a workforce for the labour market and integrate TVET into the overall educational structures of the country.
- Locate career guidance and TVET within ministries related to Education and have a high level committee composed of all stake holders: education, labour, employment, and industry that will manage the implementation of career guidance and TVET.

Conclusion

Over the last decade or so, TVET has been posed almost as a panacea for the optimisation of workforces. However, as discussed above, this need not be universally true. Outcome studies are few and far between and the few impact analyses that exist, at best, present circumstantial and equivocal evidence. Further, TVET linked courses and occupations do not enjoy the prestige and status of university based courses. As a result, particularly in Asian countries, almost by default, educational pathways have become associated with social class. By and large, economically disadvantaged or rural students are advised to take up TVET pathways while it is very unlikely that a middle class family will think of a TVET pathway for their son or daughter. Furthermore, a central issue that is often ignored is the *suitability* of the individual for a particular type of education and career. It is more than possible that a student from a lower income or rural background will do better in an academic programme while his or her higher SES counterpart could be better suited for a practical, TVET programme. It is here that the relevance of career guidance becomes obvious. A wide range of social, economic, and cultural factors influence career decision making. In the absence of career guidance, career choices could be linked with occupations that are sometimes merely artefacts of economic cycles. An individual has the highest chances of finding success through a career for which he or she has the strongest personal interest and aptitude. Streaming that is informed by career guidance could help the young person to make the transition to pathways of education and training that are *congruent* with his or her personality and disposition. When such services are weak or absent, the young person could fall a victim to the short-term human resource requirements emerging from the labour market.

Streaming, when it is not linked to guidance, could be harmful, since it is labour market objectives that would be addressed rather than the optimisation of the individual's talents for the labour market. Trends in the labour market are a powerful influence on career development. However, effective counselling is not chained to economic cycles. In practice, when streaming is coupled with guidance, it could be a powerful force for the creation of a vibrant, happy, and therefore, productive workforce.

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