

Enhancing the image and attractiveness of TVET

Abstract

The image and attractiveness of technical and vocational education and training (TVET) constitutes an interesting topic that needs to be discussed. The issues related to this not only exist in developing countries but also in developed countries. In many countries to the present day TVET is rated second class education. Parents who can afford it rarely send their son and/or their daughter to a vocational school. They predominantly prefer general education.

This paper gives some insight into the issues of the image and attractiveness of TVET in Indonesia and in the efforts and measures to increase them. Data from China, India, South Korea and Russia show, that these countries have similar problems and apply similar strategies to overcome them. In most societies TVET graduates are not considered to be ready for work. This is due to many factors, among others: lack of facilities for practice, lack of linkages between schools and companies, a poor educational system, lack of teachers' qualifications, etc.

Indonesia has made some breakthroughs in enhancing the image and attractiveness of TVET, among others, by increasing the share of vocational education and training with a target ratio between TVET and general high school education of 70% to 30% in 2025. Another step for enhancing the image and attractiveness of VET is establishing more higher education within vocational fields as has been done in China, or increasing the permeability from TVET to higher education as has been done in South Korea or India. Indonesia already has provisions for the latter and according to the latest information the Indonesian government will establish community colleges to provide a smooth path into higher vocational education. The recent launch of the Indonesian Qualification Framework suggests equivalence of academic, vocational/professional education and competence development by work experience and further training, which could make TVET more attractive.

In Indonesia, however, TVET has yet to develop in terms of quality and also has yet to develop a better image and higher attractiveness within society and the industrial communities for it to become an interesting option for young people and their parents when choosing educational pathways.

1 Introduction

Technical and vocational education and training (TVET) and the generation of skills is back on the international agenda, as numerous recent reports on the topic by different agencies show (for an overview see for example King 2013). King states, among others, that the assumption that increasing and better skills, combined with TVET, leads to economic development and more jobs, is questionable. It seems much more to be the case that economic development tends to depend on the availability of skilled human resources, but that the

availability of such human resources does not automatically lead to economic development and improved well-being of the people.

Particularly when extending TVET in order to provide economies and societies with the required qualified human resources, it is imperative to consider the willingness of the people to engage in this medium level skills development exercise. We know that young people and their parents, whenever they have the possibility, choose higher education over TVET. This has to do with TVET's predominant image as a second choice educational career and the frequent low-level attractiveness, which is not enhanced by the argument (often from international institutions), that TVET should be extended to provide economic development opportunities for the less-better-off and the marginalized.

It is therefore vital to have a closer look at what countries do to enhance the image and attractiveness of TVET to reach their defined TVET development goals. Indonesia for example has set a target for the period 2020 to 2025 of attaining 70% of technical and vocational education and training at upper secondary level as compared to 30% of general education (DIKNAS 2005:102). Such a goal, aside from providing the necessary infrastructure, requires convincing the population that TVET is viable choice.

In this paper information is given on the measures implemented in Indonesia to enhance the image and attractiveness of TVET, but also the measures taken by other countries in the region are highlighted for comparison. Some years ago a study was drawn up to have a closer look at the TVET policies of countries, considered to be economic competitors to the European Union (Ruth & Grollmann 2009). This study among others also addressed the image and attractiveness of TVET. Countries addressed were China which has been able to develop in goods manufacturing, India and Korea in software development and IT, and Russia in export of oil, gas, metals and services. All of them feature a rapid GDP growth. Indonesia was not included in the study.

Various efforts have been made by these countries, including Indonesia, to improve the image and attractiveness of TVET. TVET is still perceived as not as valuable as general education. China and South Korea, for example, with their strong Confucian cultural heritage think of blue-collar workers such as technicians and labourers as lower-class and somehow despised by the general population. Similar conditions exist in Indonesian society, where upper-middle-class children are almost certainly to be advised to choose general education in order to pursue their goals in higher education, i.e. at university. But also in most of the European Union (EU) member countries, parents prefer to send their sons and daughters to general education or university rather than to TVET.

Vocational schools are still considered second-class, not as attractive as general schools. The concept of attractiveness has broad dimensions such as perceptions of employers and labour market position, TVET graduates' skills in relation to the business/industry needs, and VET graduates' earning interest.

In the next section the author addresses the TVET systems in China, India, Russia and South Korea in terms of image and attractiveness, mainly based on the publication “Monitoring VET systems of Major EU Competitor Countries” written by Klaus Ruth and Philipp Grollmann (2009). The following sections are dedicated to the situation in Indonesia. Information on VET systems in the countries mentioned are used in considerations how to enhance the image and attractiveness of TVET primarily in Indonesia.

2 Image and attractiveness of TVET in other countries

The image and the attractiveness of TVET has been a problem for decades in most European countries (Ruth & Grollmann 2009, 44). Policy makers and practitioners are concerned about students and their parents choosing general education instead of vocational education and training. TVET is often seen as a second choice, and generally students who sign up to vocational schools are those with lower achievements. Countries like China, India, Russia, and Korea have been developing TVET in recent years to a different extent. In the following, selected aspects of the situation in these countries are discussed.

2.1 China

To improve the image of vocational education, China has developed initial vocational education and training (IVET) at tertiary level over the past decade. IVET developments at secondary and tertiary level in China, especially the opening of vocational universities since the mid-1990s have contributed to a better image of TVET pathways, mainly because they provide a degree.

Following the Chinese government's policy of providing opportunities to students of secondary vocational schools to be able to pursue higher education (tertiary level) there has been an increasing number of applicants for vocational schools (see table 1).

Table 1: **Development of students' numbers in China's vocational schools and universities**

Year	Students at vocational schools (in 1000)	Students at vocational universities (in 1000)
2004	14,092	5,957
2003	12,237	4,794
2002	11,209	3,763
2001	10,591	2,947
2000	11,328	2,161

Source: Ruth & Grollman (2009, 47)

Table 1 shows a tremendous increase in applicants for higher vocational education. The number of applicants who went on to university or college has more than doubled within a period

of 5 years. At the same time there has been an increasing number of applicants for vocational schools as a result of government policies that facilitate students' move from general education schools to vocational schools and vice versa. China's policies for vocational education apparently have considerably improved its image in the public perception. Similarly, in terms of gender differences the statistics show that women score better in exams than boys.

2.2 India

India faces the same situation as China and Korea regarding the image of vocational education and training. India also introduced policies, which allow graduates of vocational education to proceed to higher levels, but the number of graduates that take the opportunity is still limited. In India the term known as vocationalized curriculum describes the attempt to improve the image of vocational education, but the results are not yet visible. In addition India tries to enhance the image and attractiveness by improving effectiveness, efficiency and relevance of TVET. Moreover, there is vocational education cooperation with the industry, and vocational education tries to follow developments in the industry by sending teachers to practice and study new technologies.

The results of research conducted by a research group in India in the mid-1990s showed that vocational education quality in India is low (Ruth & Grollmann 2009). To cope with the problem of unemployment and the attractiveness of vocational education, measures being implemented to strengthen the position of vocational education develop vocational education curricula by including industry support. In addition vocational education programmes are run by the government, namely the advanced study programmes for students who have a good record and which lead to higher levels in the field of TVET. Such programmes have been implemented by the Indian government in fields like agriculture, trade, humanities etc. Research results conducted by The Operation Research Group (1996) showed that approximately 38% of vocational students wish to continue on to a higher level (Ruth & Grollmann 2009, 50).

In even more recent years, the efforts to develop VET have been increased (see the article from Agrawal in this journal issue).

2.3 Korea

In South Korea also the societal view of vocational education and training is not as good as that of general education. The policy pursued by the South Korean government allows students to switch from vocational education to general education. South Korea and China are opening a pathway to higher education with tertiary vocational education for four years and a Bachelor degree. These steps have the potential to improve the image and attractiveness of vocational education and training.

According to the study conducted by Ruth & Grollmann (2009) using statistical data from 2004, only 35% of students chose vocational schools over general schools. This ratio pro-

vides some hints on the general public's perception of the VET system in Korea. A detailed analysis of the number of graduates of vocational high schools showed a decrease of approximately 30% in 2004.

The Korean government tried to improve the role of vocational education in accordance with the needs of the market regarding the development of technology. In relation to this, the National Commission for the Reform of Education and the Ministry of Education and Human Resources launched plans to reform the vocational education system in 2004. The plan proposed to increase the number of vocational schools significantly and also proposed fundamental steps in strengthening vocational education and training. These were: changes in the overall structure of the curriculum, slight changes in the number of students in a class, to improve the quality of practice in the field of training, to implement school-based economic activities, and to encourage students to take business activities more seriously. To improve the image of vocational education, South Korea has made various efforts including enhancing cooperation with industry and connecting with local companies by establishing Industrial Technology Education Zones.

Regarding the labour market it is important to note, that there has been no difference in the number of unemployed graduates of vocational education and general education. In fact one would expect that appropriate vocational education would be able to reduce unemployment in the respective group.

Other programmes conducted to enhance the image of vocational education include offering further courses after graduation. There have also been initiatives to encourage graduates of vocational colleges to proceed to higher education to obtain a bachelor degree. Furthermore a new policy in Korea, whereby workers improving their skills by means of training are to receive pay increases. Such steps can increase the image and attractiveness of TVET.

2.4 Russia

Since the dissolution of the USSR vocational education at the secondary level in Russia has suffered from a decrease in the number of applicants, and those applicants who apply, are usually from economically disadvantaged groups. Russian companies prefer to recruit graduates from higher VET instead of graduates from secondary vocational schools, which further affects the image and attractiveness of secondary vocational education. Russia is also implementing a VET education model for line flexibility, in that graduates from specific secondary vocational education programmes are accepted in higher education programmes in the same subject area.

Vocational education at the level of NPO (nachal'noe professional'noe obrazovanie – initial vocational education) or equivalent secondary vocational education has undergone a decrease while SPO (strednee professional'noe obrazovanie – medium level vocational education) gradually increased, meaning vocational education at SPO level appears more attractive. There is an overall perception in Russian society, that NPO has a very low reputation. Due to

Russia's policy in the past (since 1940) NPO level graduates have been employed at low wages (Ruth & Grollmann 2009). At that time, nearly 80% of workers were on a low income, and as many as 70% were living as farmers. Therefore, currently trends show that young Russians choose to continue to higher education and employers tend to recruit workers from college or university graduates.

To enhance the image and attractiveness of VET, the Russian government has undertaken measures such as: continually improving access and quality of vocational education; remaining consistent toward international standards in terms of vocational education content; enhancing the attractiveness for private VET and encouraging stakeholder involvement (namely: social institutions).

3 Image and attractiveness of TVET in Indonesia

It is undeniable that among the public the view persists, that vocational schools are schools for the marginalized sections of society and that they are intended for economically disadvantaged segments of society and for those only capable of second-class achievement. Generating confidence in and an understanding of TVET in the society requires time, and vocational education should be able to demonstrate consistent presence in the fields of technology and life skills.

When observing objectively and from the outside, an underlying reason, among others, that has led to its weak reputation, lies in the fact, that many vocational schools have deficiencies in organizing the students' learning processes.

The major problems of Indonesian TVET in terms of image and attractiveness are also to be found in other Asian countries and feature the following:

- a) TVET graduates still do not conform to the needs of the world of work in companies (Siregar 2011), consequently companies do not choose SMK graduates over graduates from general education schools (Worldbank 2010a, 23ff.).
- b) There is no pattern of good cooperation between schools / universities with industry, (Parsa 2006).
- c) There is no well-established model of quality apprenticeship with companies involved, and the structure and content of the curriculum does not match the requirements of the world of work (Rizkya 2011).
- d) Indonesia has an extreme low level of formal employment (Worldbank 2010b, 57), which affects employees with a vocational education background much more than employees with higher education background.

Hence, the problem issues related to TVE's image and attractiveness in Indonesia are basically the same as stated above. The other four countries are consistent in the handling vocational education, and their economic progress has proved significant in terms of the increase

of Gross Domestic Product (GDP) due to their very fast growing industry sector. Growth in the industrial sector is supported by skilled workers from vocational education. The Indonesian Government should have a closer look at certain policies of the other countries, namely the introduction of higher vocational education in India and China and the pattern of cooperation between vocational schools and companies in South Korea.

4 Efforts to Enhance the Image and Attractiveness of TVET

From the 1980s the Indonesian government has continuously tried to improve the quality of vocational education to improve the image and attractiveness of vocational education. In the 1990s, Minister of Education and Culture at the time Professor Dr. Wardiman Djojonegoro implemented a model dual system education programme dubbed the Pendidikan System Ganda (PSG) or Dual System. The programme was not successful, due to the lack of response by companies and industries to the programme for a variety of reasons. These reasons included the Asian financial crisis at the end of the 1990s and the political upheaval in Indonesia. As a result the dual systems programme could not run as smoothly as intended (Sugihartono 2009). Some positive factors, however, still exist. Internships were introduced in a broad approach to develop school-industry cooperation, in parallel to pilot projects with selected schools and companies, where students spent considerable time in the workplace. Vocational schools students still have to attend an internship in a company for several weeks. Also the model of apprenticeships continues to exist, however, not as a part of the education system under the Ministry of Education for vocational school students, but as part of the national training system under the Ministry of Manpower for (first-time) workers, who just left school. This scheme, however, does not seem to be very interesting for employers because of its short duration of 12 months maximum.

Schools have made efforts to improve the skills of students with a variety of co-operations with industry and companies, encouraged by the ministry of Education. Students have to do an internship in a company, but due to various constraints the internship implementation does not run according to expectations. Companies seem reluctant to accept internship students since they feel that they disrupt production. But also the schools tend not to engage sufficiently in the supervision of students during internships, and companies are not provided with concepts on how to organise workplace learning, neither from political policy, nor from schools or the relevant universities. However, of course, there are a small number of companies and vocational schools that have a more positive mindset.

In parallel the concept of “factory schools” is promoted by the ministry’s department for vocational schools’ development in an effort to make TVET more practice oriented, and has been implemented in selected vocational schools. The results of students’ work in factory schools are attracting more and more attention and people are beginning to notice that TVET can adopt and implement high technology within fields like machinery, electrical engineering, informatics and so forth. For example SMK Mikael in Solo, Central Java, implemented this model and called it production-based education and training (Samodra 2012). Students in

SMK Mikael enjoy an extensive amount of practical learning with the theory taught in school closely related to the practice in the industry (Harian Umum Pikiran Rakyat, 31 January 2012). This mirrors almost the above-mentioned dual system of vocational education and training. The type of vocational education offered at SMK Mikael is able to raise the image and attractiveness of TVET in society, proven by the increasing number of inscriptions of students and the fact that companies are offering jobs to students long before they have graduated. Other examples include the production of Jabiru aircraft in Bandung (Harian Umum Pikiran Rakyat, 31 January 2012), the activities of Bandung State Manufacture Polytechnic (Moerwismadhi 2012), and many others throughout Indonesia where the concept is implemented in accordance with the specific conditions and the industry that supports it.

The implementation of a system of national skills standards (Standard Kompetensi Kerja Nasional Indonesia – SKKNI) together with the respective certification schemes also intends to increase the attractiveness of vocational qualifications. SMK students are to be given the opportunity to have their competences certified upon graduation. The main target group to benefit from SKKNI and have their competences certified, however, was intended to be participants in further education and training measures. The development of SKKNI was started in 2004, as well as the development of the respective certification infrastructure. After almost 10 years of development, however, the system is still trying to make a breakthrough.

In Indonesia, graduates of upper secondary vocational schools have to sit national exams similar to their peers from general education upper secondary schools. They have the right to apply for admission to higher education at university or other higher education institutions. Vocational education, therefore, theoretically is not a dead end, but can be continued to a diploma certificate or even to a university degree. In reality, however, only a small share of SMK graduates makes its way to higher education. Entry examinations with high requirements or alternatively high costs for study programmes are most likely the main reasons.

Only recently, the Indonesian National Qualification Framework (Kerangka Kualifikasi Nasional Indonesia – KKNI) was established by means of a presidential decree (PP 8/2012). This national qualification framework features nine levels, and each of the levels above obligatory schooling can be reached either through a general/academic, a vocational/ professional education and training pathway, or by work experience, further training and development in the job. With this, these three paths are defined as equivalent, and can lead to comparable levels. The implementation, however, will take some time, especially because the structures for reaching the higher levels on the vocational/professional or on the work experience path are not yet in place. In certain, mostly state-regulated areas, the equivalence of the academic and the professional track has already been attained. Teachers up to upper secondary schools, for example, can enter service with either a Bachelor degree (Sarjana 1) or a Diploma 4 certificate. How the private economy, however, will judge proposed equivalence in the future remains to be observed.

In addition, the existence of an event of national scale, namely the student competence competition (LKS: lomba kompetensi siswa), held every year for SMK students throughout

Indonesia as the national selection for the World Skills Competition, is one of the efforts made to improve the quality, image and attractiveness of vocational education. In 2012 LKS was held in Bandung. Almost all participants in LKS came from SMK from all corners of the archipelago of Indonesia. Similarly, visitors appeared extremely enthusiastic in observing, how students displayed their skills in various fields of occupational competence. It should be noted that this activity has all the appearances of very important event and is worth being supported by all parties, the public, governments and universities.

4.1 Issues and concerns

The main issue vocational education in Indonesia faces is not very different from other countries in Asia. It has to do with the job readiness of students. After completing education in TVET they are usually not ready or not fit for work in the manner companies' require. Implementing well-organised, internships (or apprenticeship) of sufficient duration within vocational education could significantly contribute in reducing this deficiency.

In the German dual system of vocational education, vocational students are primarily employees in companies (with an apprenticeship contract) and their attendance as part-time students in a vocational school is considered as purely secondary to their employment in industry. The dual system is firmly established in the German education system, its roots date back to the Middle-Ages. An essential characteristic of the German dual system is the cooperation between largely private companies, on the one hand, and public vocational schools, on the other. This cooperation is regulated by law. (German Missions in the United States 2012). The ratio between the time spent in the company and the hours of theory in school is about 70% : 30%, and the learning procedures are in accordance with the respective guidelines. The attractiveness of this dual system in Germany is rooted in two aspects. Firstly, graduates of the dual system of vocational education continue in large numbers to work as a skilled worker in the same company, where they did their apprenticeship, or if they cannot, many find employment elsewhere easily. Secondly, the difference between the salary of a skilled worker and the average academically qualified employee is not too big, as long as top positions are not taken into account. A skilled worker in a big company (e.g. in the automotive, energy, or chemical sectors) can earn as much money as a high school teacher, university lecturer, or an academically educated employee in the public service.

The linkage between vocational education and industry in Indonesia is not satisfactory, as evidenced by the many complaints coming from the vocational education side, saying that it is difficult to cooperate with industry due to various constraints. Similar complaints about the weak responsiveness of vocational schools stem from the industry communities, admitting that the capacity of the industry to accept students for internships or apprenticeships is very limited and sometimes perceived as a disruption to the production process. Arguments stating why the industry remains reluctant to accept students for internship continue posit, that the materials used by students who are doing an internship are often damaged and cannot be used anymore, and raw material is expensive. In addition, internship students tend to affect production processes badly by causing production delays (Ratnata 1995).

Vocational education and training is still a hot discussion topic in the business sector, vocational education, and higher education. In his speech during the opening of Rembug Nasional SMK Membangun Bangsa¹ (National discussion on SMK building the Nation) the Director of Secondary Vocational Education of the Indonesian Government, Anang Tjahyono (2012), commented, that up to now, secondary vocational education has not been able to prepare graduates according to the needs of the world of work. The problems faced by vocational education today are considered to be the provision of adequate infrastructure. Facilities for practice and the quality of teachers and instructors remain matters of concern. The government has tried to improve the image and attractiveness of vocational education in society and in the world of business. Yet, to address this issue, support is needed from various parties: the government, the business community and the public. Anang Tjahyono also stated that, in the near future, the national education ministry will set up Community Colleges which will provide the opportunity to graduates from secondary vocational education to continue to D1 (Diploma 1) and D2 (Diploma 2).

5 Conclusion

Considering the above mentioned facts about vocational education in a developed country like Germany, in China, India, Russia and South Korea, and the present situation in Indonesia, the following statements can be made:

- a) The image and attractiveness of secondary vocational education in Indonesian society still needs to be enhanced.
- b) Providers of secondary vocational education have yet to develop the quality of TVET delivery, to make graduates' competences accord with the needs of employment in industry.
- c) Regarding efforts to improve the image and appeal of VET, the government, here represented by the Ministry of National Education and Culture, will develop a Community College Programme as a smoother path of continuation from vocational education to higher education.

From the brief explanation related to the image and attractiveness of VET the following conclusions can be drawn:

- Thus far the image and attractiveness of vocational education is still not good and people continue their thinking, that choosing a vocational school is caused by economic factors (they want to earn money quickly), in the hope that soon after graduating from vocational school they will be able to support their families financially. This condition also applies to higher vocational education (college) in D1 (Diploma 1), D2 (Diploma 2) and D3 (Diploma 3).

¹ Held on June 18, 2012 at the Faculty of Technical and Vocational Education, Indonesia University of Education, Bandung

- Public perception persists in thinking that continuing to higher education will improve one's status, while secondary vocational education is thought to produce simple labourers. This perception remains prevalent in China and Korea due to Confucian tradition, and in India due to the officially abolished, but very much still living caste-system, where the group of laborers and workers is considered inferior and those who are employed by the government as upper class. Generally, those who are able tend to choose public schools and higher education, i.e. the general education track.
- The Indonesian government is attempting to improve the quality, image and attractiveness of vocational education by opening the programmes D1, D2, D3, S (strata) 2 (T: Technique) and S3 (T)² as stated in the Regulation of the President of the Republic of Indonesia No. 8 Year 2012 about KKNI (Indonesian National Qualifications Framework). This means that vocational students who excel can continue to higher education level, very much like participants of general education.
- To this day in Indonesia, the workforce graduating from SMK is still regarded as not having sufficient skills in their field, and are not offered good salaries. Hopefully, in the future government policies will be implemented, leading to an appropriate remuneration of skilled workers with SMK graduation, so that younger generations will be encouraged to choose their educational pathway via SMK, and eventually the image and attractiveness of TVET will be enhanced.

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² S2 is the Indonesian Master degree, S3 the Indonesian equivalent to Ph.D.

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CITATION:

Ratnata, I W. (2013). Enhancing the image and attractiveness of TVET. In: TVET@Asia, issue 1, 1-13. Online: http://www.tvet-online.asia/issue1/ratnata_tvet1.pdf (retrieved 30.5.2013).

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