

Vocational-Technical Education in a Globalizing Economy

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Two bills were enacted into law in 1994 and both have to do with vocational technical education. The first was the Dual Training System Act (in February) and the second (in August), the creation of the Technical Education and Skills Development Authority (TESDA). These two laws were enacted in the midst of and in response to the seemingly inevitable participation of the country in the globalization of the world's economy.

This paper is an attempt to assess the significance of technical-vocational education and training as an HRD response to economic restructuring under globalization, and identify major problems and policy issues in the area of Technical-Vocational education.

This study relied primarily on available secondary data, i.e. various researches done on the subject matter, the EDCOM report, NMYC-TESDA commissioned researches as well as outputs of the various TVET fora.

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Definitions

Technical Education – is the educational preparation for occupations between the skilled trades and the professions. It is designed for upper-secondary and post-secondary levels to prepare middle-level personnel (technicians, middle-level management, etc.), and at the university level, to prepare engineers and technologists for higher management positions.

Vocational Education – is designed to prepare personnel at lower qualifications for one or a group of occupations, trades or jobs, and is usually provided at the upper secondary level. It includes general education and practical training for the development of skills required by the chosen occupation, which vary considerably, but the emphasis is usually on practical training.

Technical and Vocational Education – is a comprehensive term which refers to the education process where it involves, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills relating to occupations in various sectors of economic and social life. The broad educational goals of technical and vocational education distinguish it from "vocational training."

Skills Development – is the process through which learners and workers are systematically provided with learning opportunities to acquire or upgrade, or both, their ability, knowledge and behavior pattern required as qualifications for a job or range of jobs in a given occupational area.

Training – is a process of helping others to acquire skills and knowledge without reference to any great meaning for individual's learning to perform skills and to verbalize the knowledge being performed.

Vocational Training – refers to the range of activities aimed at providing the skills, the knowledge and the attitudes required for employment in a particular occupation or a group of related occupations or functions in a field of economic activity. It encompasses initial and refresher training, further updating, and specialized job-related training.

Rationale

The era of globalization is here and we are left with no option but to "embrace the challenges of globalization and GATT, and encourage, embolden, and ennoble our people to compete in the world economic arena."

Why technical and vocational education and training (TVET)?

TVET has been around for a long time, almost as old as our educational system. Along with the system it has undergone substantial redirection and reformation in accordance with the requirements of development (Doctor, p 219).

Currently, TVET is viewed as playing a very crucial role in the country's desire to achieve that seemingly elusive dream of joining the ranks of tiger economies. It is in fact part of the overall HRD strategy, a response to develop and prepare our people to compete in this so called "world economic arena." As the Director-General of TESDA expresses it: "The main thrust of TESDA (and vocational and technical education in the Philippines, for that matter)" is to meet the challenge of manpower development in an era of globalization. By necessity, the Philippines has to develop a workforce that is flexible, multi-skilled and world class. There is no other way by which the Philippines can be competitive in the liberalized global market under the World Trade Organization. Our only advantage lies in skilled labor which we have to continuously upgrade." (Lacson, quoted by Del Rosario, Graphic, p1)

It is in recognition of the fact that there are workers in other sectors of the economy (other than agriculture) whose skills have to be upgraded to cope with new technologies and new work processes. And also, that women too, have to be trained to draw them into the mainstream of the world of work. (Del Rosario, p2)

It is in response to the demands of producing quality and highly productive workers if the country is to compete not only for economic survival but to be able to "pole vault" into the much desired status of an economic tiger. Thus, the need for world class production workers who will do the "pole vaulting" for us; thus, the current resurgence of such keen interest and much attention on TVET.

There is the burden of carrying out this "awesome mission" of producing globally-competitive highly-skilled workers. TESDA has been

assigned such mission. Section 19 of the TESDA Act of 1994 states that "it is the policy of the state to provide relevant, accessible, high quality and efficient technical education and skills development in support of the development of high quality Filipino middle-level manpower responsive to and in accordance with Philippine development and priorities." The current priority involves developing skills more efficiently. Globalization and liberalization oblige economies to be competitive, and to become competitive, the sector must allocate and use their scarce resources more efficiently. (Project Brief, Philippine Technical Vocational Education and Training Forum, p1)

Voc-Tech Education in the Philippines: An Assessment

Technical and vocational education in the Philippines is beset with problems. The major ones are:

1. Internal efficiency
2. External efficiency
3. Quality of Voc-Tech Teachers
4. Funding of TVET Institutions
5. Low Societal Regard for Tech-Voc Education

A. Internal Efficiency

Internal efficiency of education refers to the relation between school inputs and the level of pupil or student achievement (that is, the relation between input and output in educational institutions) (Psacharopoulos, 1985 p. 317).

Extensive research of such relations has shown that student performance in developing countries is largely determined by such measures as providing students with textbooks or improving teacher quality. Evidence from countries points to the importance of school textbooks and shows that improving the availability of textbooks may be one of the simplest and most cost-effective ways of improving school efficiency.

The quality of teachers is another vital determinant of pupil performance (Hasen, Saha and Noonan 1978), and is generally more important than class size (Haddad, 1978). This finding raises the question of the cost-effectiveness of alternative methods of teacher training. In-service training and upgrading of teachers may often be a quicker and more efficient way to improve teacher quality than enlarging initial training capacity. (Psacharopoulos, *ibid*).

Adequate quality textbooks, shops and equipments and consumables, as well as quality teachers are a function of the financing given to vocational-technical education.

B. Gross Underfinancing

According to former Bureau of Vocational Education Director, now TESDA Deputy Director Alcestis Guiang, TVE has never been given adequate support to do properly its expected task of preparing people for employment at the middle and para-professional levels. (Guiang, June 1993). This results to perennial problems of inadequate shops, equipment and consumables, low teacher salaries, and inadequate teacher exposure to industrial experience. This neglect is evidenced by the extremely low budget allocation given to TVET, a low 4.5% of the DECS budget in 1993. (Guiang, *ibid*). S.A. Mendoza in a TVET Sector Study Series in 1995 education and manpower budget, the budget for TVET was only 3.1% of the total education and manpower budget program was a mere 0.4 of the proposed national budget. The 1993 annual Report of DECS-BTVE cited gross underfinancing as one of the three problems besetting the sector, which "drastically limits the quality and quantity of training provided." (Mendoza, *ibid*). The other two were the poor delivery of the courses which was partly due to the lack of adequate workshop equipment and consumables again because of lack of funds; and the third problem cited was the lack of fit between output and demand of business and industry.

The unit cost of TVET programs are as follows: (average annual operating costs per student)

1. **DECS-TVE** – P5,479 (in 1990), varying from region to region.
2. **NMYC** – P1,104 (1990), based on the number of trainees of whether they finished or not the 600-hour basic course of the 120-hour upgrading and trainor's program. (Mendoza, 1995, p.200)

Vergara and Valisno, (1985; cited in Doctor, 1995) forward that only 60 percent of students entering secondary vocational courses eventually complete the four-year course, information which was confirmed in the EDCOM report in 1991. Of these graduates, only 40 percent proceed to post-secondary technical programs. Only one-half (50%) of these students finish their chosen course. This implies

that the inefficiency is due to the inability of students to pay school fees, not to mention the observation that many students dropped out due to dislike of their courses as reported by PCSTVE (1980)

C. Quality of Voc-Tech Teachers

The EDCOM Report emphasizes that the "teachers are the heart of the problem" of the Philippine educational system. What kind of voc-tech teachers do we have?

There is a dearth of qualified and good teachers. (Mendoza, 1995, p.). The educational qualifications for TVET teachers/trainors are high, and yet, SUCs have the most educationally qualified teachers and those in the NMYC (now TESDA), being predominantly baccalaureate degree holders. So what would account for the low quality of teachers?

According to S.L. Lasap Jr. (1995) who conducted a research on Technical Teacher and Trainor Education and Training in the Philippines, problems that plague the teaching profession include but are not necessarily limited to the following:

1. Low quality of students enroll in teacher training;
2. Perception that teaching is a low-esteemed profession;
3. Low salary of teachers;
4. Meager opportunities for professional development; and
5. Weak system of classroom supervision.

Other contributory factors to the inefficiency of teaching which were cited are:

1. Lack or inadequate teaching facilities particularly those related to the teaching of science and mathematics; and
2. Numerous non-teaching assignments.

These problems lead to poor quality education. It becomes a vicious cycle that starts with poor teacher training, resulting to poor quality teachers compounded by inadequate facilities in the classrooms.

In technical and vocational education, two other major factors cited that contribute to poor quality are:

1. Lack of necessary field experience among teachers in

- their own specialized areas resulting to mere chalkboard teaching of practical skills; and
2. Obsolete materials and equipment used in classrooms that do not represent those currently used in the industry.

BTVE in its 1993 Annual Report cited these two problems as contributing to "poor delivery" of teaching. It also says that teachers cannot give students adequate hands-on time to attain acceptable proficiency due to the absence or inadequate resources and to their lack of industrial experience. (Lasap, pp2-3)

D. External Efficiency

According to Psacharopoulos, the external efficiency of educational investments is usually judged by two criteria: (Psacharopoulos, 1985 p.316)

1. The extent to which schools, universities, or training institutions provide the necessary skills for the smooth running of the economy, and the extent to which school-leavers or graduates are absorbed into the labor market, find the jobs and the earnings they expect, and are able to use their skills in employment;
2. The balance between the costs of investment in education and the economic benefits as measured by the higher productivity of educated workers, that is by the social rate of return.

External efficiency is usually measured by the acceptance and absorption of graduates at the workplace. The employment rate of the graduates is an index used to evaluate the relevance of the programs which graduates have completed. (R.M. Doctor, 1995, p.239).

1. BTVE Graduates

A BTVE survey in 1990 on the employment status of technical/vocational graduates in the formal system for all regions of the country show that only 22 percent of graduates were employed. The survey covered secondary schools offering technical and vocational education, only 11 percent were employed. Graduates from short-term courses had an employment rate of 54 percent. The BTVE survey also show that NCR graduates had the highest employment rate of 71 percent while Region 5 had the lowest at 8 percent. (Doctor, *ibid*)

2. NMYC Graduates

An NMYC evaluation also for 1990 show an employment rate of 45 percent for all its graduates. CAR was highest at 63 percent and Region 9 was the lowest at 31 percent. The evaluation also reveals that the utilization rate of NMYC graduates was a high of 77 percent. The high utilization rate shows that the skills learned by graduates in programs they took were used in their employment. (Doctor, *ibid*)

3. Quality of TVET Graduates

Based on the regional consultations conducted by EDCOM, administrators and teachers/trainors in TVE institutions claim that graduates produced by the technical/vocational schools are of poor quality. The BTVE, in its 1993 Annual Report, says that the poor delivery of the TVE is due to teachers who cannot give their students adequate hands-on time to attain acceptable proficiency because of the absence of equipment and consumables; and also because of their lack of industrial experience. These teachers are forced to use only their chalks and blackboards.

There is also a question of program relevance and adequacy. In many instances, curricula, or certain provisions of the curricula, have been rendered obsolete by the introduction of new tools, materials, processes or products, and the corresponding graduates of such programs including marginal courses (those with no private or social value) are generally not employable. (Doctor, p.237).

The poor quality of formal TVE graduates could be one of the major reasons why the employment rate is only 11 percent for graduates of secondary TVE schools. (Doctor, p.201).

From another perspective, the TVET system has not been able to meet the manpower needs of the employment sector qualitatively. In fact, EDCOM reported that in the regional consultations it conducted, administrators and teachers claimed that the technical schools produced low quality graduates. Representatives of industries likewise claim that they have to retrain hard the graduates of most TVET schools (Vergara, 1986). Nevertheless, it should be stated that the absorption rate of TVET graduates of post-secondary TVET programs has been increasing over time. For instance, as reported by Vergara and Valisno (1985) the employment ratio of graduates of post-secondary non-degree and the degree programs for tech-voc teachers in 1970 was 51.7 percent. It rose to 77.7 percent in 1980 and to 80.0 in 1990. These data, however, do not indicate whether graduates were employed in the trades

for which they were trained. (Doctor, p239)

While pointing out the problem of external efficiency as being due to the low quality of graduates produced by the sector, as well as the mismatch of manpower in both quantity and type of skills, the National Skills Development Plan (NSDP) of 1993 acknowledges (as EDCOM did) that this is the result not only of the ineffectiveness of the education and training system but of the economic and industrial structure which does not give proper signals to the training institutions on how much and what kind of manpower to produce.

E. Low Societal Regard for TVET Graduates

For a country in need of blue collar workers, it is ironic that a kind of social stigma is attached to tech-voc education and graduates. In a survey conducted by the former NMYC involving parents as respondents, 72% aspired for their children to pursue college education while only 23 percent opted for voc-tech courses as their first choice. (Manpower News and Features, TODAY, 1995)

The study showed that majority of the parents give a great deal of importance to the employment opportunities that a particular course can offer, considering the wide career choice and social prestige it can offer.

When asked to give their perceptions on voc-tech education and training, parents gave positive and negative responses. Among the positive responses provided are the following: overseas employment opportunities due to its demand abroad; practicality in taking up vocational courses; good training ground to develop entrepreneurs and skilled workers needed by the growing economy; and the cost of maintaining equipment and facilities.

On the other side, most parents believe that voc-tech education is only for economically deprived people; it is given less emphasis or importance; not accessible to many; and only for those with low mental ability. It is characterized by its inadequacy of qualified trainers and equipment and poor facilities.

More than 50 percent of the parents interviewed said that blue-collar workers are generally given low regard than white collar workers. A number of parents, however, specially those from relatively poor income brackets consider vocational training a good alternative or a second option.

Options and Recommendations

In cognizance of the limited government funds for TVET, the alternative is to make existing resources more productive and to improve the internal efficiency of the institutions comprising the TVET system. (Mendoza Jr. p.203-206)

1. Possible Cost Recovery Measures

- a. Study the possibility of charging user fees on a selective basis, based on courses for which demand is high and employment prospects are good (i.e. automotive mechanics, electronic servicing, building electrician).
- b. To pay these user fees, disseminate information on available student loans on a study now, pay later scheme, such as the SSS Special Educational Loan Program for Vocational and Technical Student.

2. Increase Participation in Dual Training Systems

In the dual training system, the trade related theory and basic skills are learned in the school and applied in the factory. Thus the school does not need too much sophisticated equipment since most of the skills training takes place in the factory, which has normally more and better equipment than the school. The school can also train more students than its normal capacity since the trainee spends only two days a week in the school and four days a week in the factory for on-the-job training. During the days that the dual system trainees are not in the school, the equipment and facilities can be used by other students, thereby maximizing the use of both classroom and workshop facilities and faculty.

3. Tax-Incentives for Enterprise-based Training Programs

Tax incentive schemes should be explored where the private sector can be encouraged to invest in human resource development, particularly in employee training programs. Such an incentive is incorporated in the Dual Training System Act of 1994 signed into law on February 25, 1994. An enterprise can avail of tax incentives like a 150 percent deduction on dual system expenses related to the in-school training of trainees, the amount being deductible in the computation of taxable profits.

4. Possible Payroll Levy Schemes As Used in Other Countries

Many countries finance training through a levy system on industry, typically a payroll tax. Such a system existed in the US during

the 1930's and employers paid US\$0.05 for every employee in order to finance publicly-provided training. In Nigeria, all enterprises pay a two percent levy on payroll costs to an industrial Training Fund, and approved expenditures on training are offset against levy payments. In Morocco, 50 percent of all training cost are borne by the private sector through a levy. In the Philippines, due to the large number of small enterprises which cannot yet afford such a levy, a national levy system may not be appropriate at this time. However, industry boards could be organized and identify industries for in-plant training. Then a levy system on a selective basis could be in place. A reputable board of trustees has to be appointed to ensure the safekeeping and efficient disbursement of the training fund.

5. Establish a Perpetual Type TVET Development Fund

Since the yearly allocations from the government budget is erratic as the tax collections cannot be predicted with certainty, a perpetual type TVET development fund should be established. Only the earnings could be used for awarding grants and providing assistance to training capabilities. Possible donors that could be tapped are PAGCOR and the Duty Free Shops of the Department of Tourism. TESDA has such a fund called the TESDA Development Fund, which should be activated as soon as possible.

6. Seek For More Bilateral and Multilateral Foreign Assistance for TVET

Tap agencies such as IBRD, ADB, CIDA, NORAD, and the UN System, for additional funds, preferably grants, to develop the TVET system. However, if counterpart funds from the government are required, these have to be made available in the General Appropriations Act.

It has been observed that in general, project funds from foreign assistance need to be self-sustainable. Self-sustainability will ensure that even after the project funding ceases, funds will be available for personal salaries, equipment maintenance, purchase of consumables and utilities to keep the project operating.

7. Involve NGO's in TVET

NGO's are invaluable in reaching the grassroots level in the countryside for skills training. They should be funded and given a share of the ODA funds available to the country. However, funding should be given without threatening their autonomy or destroying their natural self-reliance, grassroots strengths. A partnership arrangement would be most beneficial for both parties.

Quality of TVET Teachers

As embodied in the EDCOM, among the salient courses of action to provide quality vocational and technical teachers and trainers are the following : (Lasap Jr. p.23)

1. Institutionalize a system through which TESDA certifies to the job proficiency of teachers and trainers;
2. Set minimum qualifications including computer competency in vocational education in institutions to improve the quality of teacher preparation;
3. Set minimum qualifications for teachers of TVET so that a certification from TESDA could be considered a degree in education; and
4. Allow TVET institutions to hire teachers, facilitators or trainers from industries, either on secondment or on leave with pay basis.

External Efficiency

All the above problems and issues have been recognized by various studies as necessary in the implementation of the vocational and technical education and training in the Philippines. The problems are inextricably linked to each other in a causal chain relationship. Ultimately, the main problem has been identified as gross underfinancing of the sector. The quality of teachers as well as the graduates are simply consequences of such primal problem, the other being a problem of values.

In its assessment, the NSDP in 1993 proposed the following in terms of overall policies and strategies:

1. User-led skills development
 - Providing the end-users of the occupational skills the key role in deciding what and how skills should be developed; and
 - Developing the capabilities of private industries, local government units (LGUs) and non-governmental organizations (NGOs) in skills development.

2. Cost-Effective Skills Development

- Establishing cost-sharing schemes through which the end-users of occupational skills training bear increasingly its cost;
- Implementing the most cost-effective methods of vocational education and training.

3. Quality and Relevant Skills Development

- Improving the quality or input to training such as curricula, teachers and trainers, training methods and materials, and tools and equipment.
- Strengthening of the linkages between training institutions and users of skills to ensure relevance of acquired skills and knowledge to economy's skills needs.
- Evolving flexible skills development approaches that optimally combine institution-based and enterprise-based skill training. (The creation of the Dual Systems Act of 1994 was the vehicle through which this was to be operationalized.)
- Improving and strengthening community-based skills development in the context of meeting the basic needs of the clientele and developing their capability to participate in the growth process.

4. Elevation of the social status of the blue-collar workers

- Promoting trade testing and certification into a prestigious qualification system for blue-collar workers;
- Promoting skills competitions and recognition schemes for the blue-collar workers.

5. Values Development

- Providing strong values education particularly the inculcation of the principles of the dignity of labor, pride in one's work, commitment to honest service, the value to time and self-discipline, and sense of nationalism.
- Emphasizing Filipino values, work orientation, work skill,

work ethics, professionalism, productivity, discipline and occupational health and safety consciousness in the technical vocational education and training curriculum.

Conclusion

So much has to be done. It seems, however, that institutional changes toward a really more responsive and efficient TVET sector have been put in place over the past several years. There was TESDA and the DUAL Systems Act. There have been several fora undertaken to analyze on how best to implement the changes. TESDA is continuously assessing and reassessing its policies and strategies. There is need to recognize, however, that training and skills development can only operate within an economic environment that reinforces it.

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