Vocationalization: Issues for successful implementation

3 December 2012

Youngsup Choi
Research fellow,
Korea Research Institute for Vocational Education and Training
Importance of TVET reasserted

“TVET is expected to contribute actively to the achievement of the Education for All (EFA) goals and Millennium Development Goals (MDGs) as the target date of 2015 approaches, and that its importance is being increasingly recognized on the threshold of the Rio+20 United Nations Conference on Sustainable Development (20-22 June 2012) and in the international discussions on the post-2015 international education and development agendas.”
(Shanghai Consensus, the 3rd Global TVET Congress)
In many countries, TVET has been expanded

Note: Enrolment rate=Number of upper secondary TVET students/number of school age population at upper secondary.

For countries without data in 2000 and 2010, the data of closest year are used.

Source: UNESCO-UIS database.
TVET contribute to the expansion of USE

- Positive relationship between the expansion of TVET and USE

<Regression results about the effect of TVET expansion to USE enrolment ratio>

<table>
<thead>
<tr>
<th>Model</th>
<th>Increment of TVET enrolment ratio</th>
<th>Square of increment of TVET enrolment ratio</th>
<th>Level of USE enrolment ratio in 2000</th>
<th>Constant term</th>
<th>Adj R-squared</th>
<th>Prob&gt;F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>1.985*** (0.422)</td>
<td></td>
<td>0.067 (0.048)</td>
<td>14.198*** (4.752)</td>
<td>0.523</td>
<td>0.000</td>
</tr>
<tr>
<td>Model 2</td>
<td>1.520*** (0.394)</td>
<td>0.078* (0.044)</td>
<td>-0.144* (0.082)</td>
<td>15.025*** (4.259)</td>
<td>0.472</td>
<td>0.001</td>
</tr>
<tr>
<td>Model 3</td>
<td>1.464*** (0.495)</td>
<td></td>
<td>0.025 (0.051)</td>
<td></td>
<td>0.567</td>
<td>0.000</td>
</tr>
<tr>
<td>Model 4</td>
<td>0.908** (0.428)</td>
<td>0.088** (0.035)</td>
<td>-0.203** (0.077)</td>
<td></td>
<td>0.578</td>
<td>0.000</td>
</tr>
</tbody>
</table>

- Dependent variable: Increment of USE enrolment ratio.
- Data: 23 Asia-Pacific countries, 2000~2010 from UIS DB
- Increments of each variable were calculated by the difference between the number in 2010 and in 2000. If there's no data in 2000 or in 2010, the earliest one or the latest one was used instead.
Why? An alternative to general education

- “As an alternative to general education serving different learning styles, TVET can contribute to the expansion of secondary education” (US Advisory Committee for the National Assessment of Vocational Education, 2003)

- “Based on the analysis on OECD enrolment data, a 10 percentage point increase in the share of upper secondary students in vocational and prevocational programs is associated with a 2.6 percentage point increase in the high school graduation rate.” (Bishop, 2005)

- “In country after country, introducing CTE options at the secondary level helped spur expansions of secondary school attendance. A positive feedback cycle began. The CTE option induced students to stay in school longer. The flow of occupationally trained graduates into the labor force generated employer support for further expansion of secondary education.” (Bishop, 2005)
Challenges to the expansion of TVET

Continued low popularity combined with limited opportunity of decent jobs for TVET graduates

- TVET as a second-class education: failed to attract students and thus even resulted in the decrease of TVET enrolments at secondary level

  “Cambodia also sees the need for social marketing of TVE to inform students, families, and employers and change the public perception that institutes/universities is the only road to good employment and that TVE is just for the bottom level jobs.” (UNESCO Bangkok, 2009, Synthesis report)

- Is it only a matter of ‘wrong perception’ or, a matter related to ‘real difficulty in finding decent jobs with TVET certificates’?

- How to break a vicious cycle?

Limited opportunity  
Low popularity  
Difficulty in attracting competent students
Not only demand but also supply matters...

- **Limited accessibility**
  - Especially for those who are living in remote or scatted area: Due to limited availability of TVET institutions near to their living area
  - Mainly caused by high unit cost of TVET implementation: “The total unit cost of the technical (vocational) program was ...more than three times the unit cost of general education arts program.” (Lauglo: 2005)
  - Limited possibility of expanding dedicated formal TVET institutions

- **Efforts to provide TVET after youths’ leaving education**
  - Non-formal skills training centers for uneducated adults and out-of-school youths, which are usually running short-term programs

- **More efforts required to provide opportunities of acquiring practical skills while pupils are in schools**
  - Basic rationale of vocationalization: Need for searching cost-effective ways of providing education on vocational subjects in order to let pupils exposed to vocational skills and also to make them remain in schools.
What is “vocationalization”? 

- **Main goal:** “Improved vocational relevance of education.”

- **Traditionally interpreted as a ‘vocationalized curriculum’**
  - “A curriculum which remains overwhelmingly general or ‘academic’ in nature, but which includes vocational or practical subjects as a minor portion of the students’ timetable during the secondary school course” (Lauglo, 2005)

- **In addition, other approaches can also be considered if the purpose of vocationalization is to improve the vocational relevance of education under the unique socio-economic conditions**
  - For instance, comprehensive schools in rural area providing general and vocational programs in the same school premise while allowing students to change programs without changing schools will attract more students to vocational stream and thus contribute to the enhanced vocational relevance.
Rationales for Vocationalization

- Three expected goals of vocationalization (Lauglo, 2005)
  - Personal development goals: To educate “the whole person”—that education should develop moral, aesthetic, physical, and practical capacities, not just cognitive knowledge organized in academic disciplines
  - Socio-political goals: A means to greater equality of opportunity and to break down social class barriers and teach respect for manual labor
  - Economic goals: Provision of skilled and semi-skilled manpower, reduction of wasted resources caused by weak articulation between education and labor market, technological literacy, and generally facilitating economic growth and national development (Lauglo, 2005)

- In short, to make further progress on educational development and at the same time to maximize the contribution to socio-economic development
Is Vocationalization a valid policy option?

- **Skepticism over TVET itself**
  - In terms of internal rate of return to investment, lower returns to the vocational tracks than to the academic ones and in terms of employment, no advantage of the vocationalized courses over academic ones in obtaining employment (Psacharopoulos and Loxley, 1985)
  - Fundamental objection towards the expansion of vocational education in developing countries arguing that the universalization of general education is far most urgent

- **Little impact of ‘thinly spread’ approach**
  - Minor changes of general education curriculum and its application in several schools across the country didn’t make remarkable difference in skills acquisition and getting employment
Problems of ‘thinly spread’ approach

✓ In Trinidad-Tobago, vocationalized curriculum with a minor portion (typically one-tenth to one fifth of total curriculum time) of vocational subjects failed to have any clear effect on the employment (Chin-Aleong, 1988)

✓ Thus, “the studies which have been conducted in developing countries... have failed to show that the kind of secondary school vocationalization which affects a small proportion of the student’s total curriculum—e.g., 10-20% of curriculum time, gives any advantage in finding work in the context of severely depressed labor markets.” (Lauglo, 2005: 42)

✓ Also, according to Bishop (2005), even in U.S., “no significant effects of introductory vocational courses (general business, agriculture, distributive education and health occupations) on employment, unemployment, wage rates and earnings in either 1993–94 or 2000.”

● Conclusion: Light dosage with little or no impacts
Why such little or no impacts?

• Reasons suggested by Wilson (2005)

✓ Tried to develop a viable system in a short period of time
✓ Negative attitude of parents and students to vocational education
✓ Lack of adequate financial and material resources
✓ Lack of curricular relevance to the needs of business and industry
✓ Deficiency of professional vocational teacher training
✓ Failure to provide trained professional vocational subject inspectors
✓ Changes in multi-lateral and bi-lateral donor policies

“There are major shortcomings in developing countries’ capacity to finance and implement vocationalization. On the other hand, implementation has been constrained by high costs and greater logistics complexity than other subjects. What was supposed to teach practical skills all too often has ended up being reduced to “theory teaching”. (Lauglo, 2005: 43)
Is it still useful?: The case of U.S.  (Bishop, 2005)

• Pervasiveness of CTE in comprehensive schools
  ✓ “Nearly every graduate takes at least one CTE(career-technical education) course and 90.7% take at least one occupation specific course.”

• Positive effects of CTE on labor market performance
  ✓ By analyzing panel data of USE graduates in 1988, “each additional non-computer CTE course led to higher earnings than mean earnings of 1993 and 2000, 4.6% and 1.4% respectively”
    * No significant effect of introductory CTE course to earnings and job quality
  ✓ “Benefit–cost ratios and internal rates of return are remarkably high. Benefit–cost ratios exceed 6.0 and real internal rates of return all exceed 18%.”
Implications of previous experiences

“No international iron law which dooms vocational courses taught in a mainly “general” school” (Lauglo: 2005)

- No impact of thinly spread program but significant impact of more specialized program

● Resource implication
  - To make it effective, it is necessary to secure ‘sufficient concentration’ of human, financial and organizational resources

● Implication to developing countries
  - Then, does it mean that such approach is not suitable in developing countries where such resources are seriously limited?
  - Or, does it mean that far more careful examination on the several conditions of successful implementation is especially required in developing countries?
What should be considered?

● **Factors of successful vocationalization** (Lauglo, 2005)
  ✓ Sufficient demand for skilled work
  ✓ Greater concentration of skills teaching
  ✓ Policy focused on what schools are able to achieve
  ✓ Practical skill teaching not just theory teaching

● **Factors that make a difference between success and failure** (Wilson, 2005)
  ✓ Thorough initial human resource study
  ✓ Diligent attention to policy planning
  ✓ Adequate funding
  ✓ Proper provision of equipment and materials
  ✓ Relevant teacher training
  ✓ Effective subject inspection

“(Vocationalization approach) must be rooted in assessment of resource requirements—**not just the financing of subjects but also the human and organizational resources** needed to mount subjects which have demanding staffing and logistics needs.” (Lauglo, 2005: 43)
Questions for further discussion

- Challenges to vocationalization
  - TVET: usually it costs!
  - In many developing countries, resources are limited
  - Demand tends to be scattered and diverse
    - Difficulty of economy of scale, inefficiency even with limited available resources!
  - Demand exists there but resources are limited: Basic dilemma!
  - Which direction? Thinly spreaded with little impact? Or, concentrated with still limited accessibility?

- What would be the lessons from case study countries?
  - What would be the success factors or, the factors brought in unsatisfactory outcomes?
Areas for policy discussion:

- Purpose: Entrance to the LM? Professional learning at a later stage? Or just raising awareness?
- Target groups: Academically competent? Or rural area students?
- Fields and level(s): Industrialized sectors or traditional sectors? Entry level or advanced level?
- Relationship with general education: Separated stream or integrated stream? How many hours for general education subjects?, etc.
- Other practical issues: Teachers, facilities, equipment, materials, training places, etc.
Approaches in Asia-pacific: India

- Redefining of vocational education in association with the recent development of National Vocational Educational Qualification Framework (NVEQF)
  - Integrates general academic education, vocational education, vocational training and higher education into a single system of 14 qualifications

- Two ways of providing vocational education
  - Vocational education as a distinct stream: To prepare skilled persons for identified vocations/trades as per demand of emerging economy, industry/employer in several areas.
  - Vocational education as electives: In the form of modules, vocational electives would also be available for the academic stream students in addition to academic subjects.
Approaches in Asia-pacific: South Korea

- Comprehensive high school (1956- present) and integrated high school (2001-2007).

  ✓ Comprehensive high school
    - Provide vocational preparation to students who wanted to get a job, while at the same time also provide academic preparation to students who wanted to continue their study in a college or university
    - Students in comprehensive high schools are allowed to transfer to the other track until the 1st semester of the 2nd year.

  ✓ Integrated high schools
    - Type I integrated high schools: First one year of common curricular and from the 2nd year, 2 choices, i.e. general education track and vocational education track like the case of comprehensive high schools.
    - Type II integrated high schools: First one year of common curricular and from the 2nd year, several integrated courses which are multi-disciplinary (vocational and general education integrated programs).
Approaches in Asia-pacific: Uzbekistan


**Key features**

- **Academic lyceums** are focused on intensive intellectual development, a deep specialized and professionally-oriented education, taking into consideration the pupils’ interests and abilities. Pupils can choose the direction of studies (humanities, sciences, agriculture and others).

- **Professional colleges** are the second type of secondary specialized professional educational establishments, which along with general subjects provide professional skills and knowledge for a chosen profession (technical and vocational education and training (TVET)).
Approaches in Asia-pacific: Thailand

- Some general secondary schools also offer vocational education program mainly at the areas without high investment in equipment
  - Model 1: Students enroll in TVET institutions and general schools as an extension of TVET institution
  - Model 2: General school offer TVET programs in cooperation with multiple TVET institutions
  - Model 3: General schools organize TVET programs independently

- Recent introduction of secondary career education in order to provide secondary students with TVET experiences
  - Composition of curriculum: 45% of core compulsory part, 45% of career potential subjects, 10% of student activities
Thank you!

choiys@krivet.re.kr