

# Technical and vocational education



The development of Technical and Vocational Education and Training has clearly been seen as a key to national poverty reduction and socio-economic development in Cambodia, as defined in the Rectangle Strategy of the Royal Government of Cambodia (RGC) and the five-year National Strategic Development Plan (NSDP) 2006-2010. These show a commitment to skills development. The National TVET Development Plan, 2006-2011, also identifies the TVET sector as an important element in alleviating poverty, promoting peace, conserving the environment, improving the quality of life for all, and helping achieve sustainable development in Cambodia. However, Cambodia's current TVET system is facing several critical issues such as: lack of access to formal training on a national basis, weak links with industry, lack of entrepreneurial focus, poor quality control, inadequate institutional financing, low rates of information and communication technology (ICT) usage and low capacity of TVET teachers, which have limited the quantity and quality of system outputs for years (e. g., Asian Development Bank [ADB], 2009; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2004b; International Project on Technical and Vocational Education [UNEVOC], 1997).

With the critical importance of the TVET sector, the TVET curriculum must be well prepared for the success of students at the workplace. It can mean the difference between success and failure for TVET students in terms of theoretical knowledge and technical skills as well as being abreast with new technologies in the workplace (African Union, 2007). Similarly, Ben-Peretz (2009) specified the school curriculum as one of three critical domains of education, which should prepare students for their future success.

As reported by United Nations Development Program (UNDP) (2011) one of the most vital aspects of education is to produce a workforce which is skillful and able to gain returns on their education and for the overall economy when they are in their careers. Therefore, the education system must be able to understand the needs and necessities of the economy and prepare learners for their economic lives (UNDP, 2011). However, TVET curricula have not focused their relevance to the requirements of the labor market in many countries; and in other nations, for various reasons, employers or managers may prefer to hire unskilled workers or ‘academic’ graduates and provide on-the-job training programs (Maclean & Lai, 2011).

There do not seem to be strong gains and work advancement in Cambodia (UNDP, 2011). Additionally, the balance between theory and practice has shifted in recent years. There seems to be a case about the (under)graduates’ perceptions of the relevance of TVET curriculum to their existing jobs. However, this anecdotal information was only heard second-hand from employers. That is, many employers in Cambodia have complained about the curriculum mismatch that most graduates from universities and technical schools are not well equipped with knowledge and skills needed at workplace, especially soft skills (ADB, 2009; UNDP, 2011).

Actually, the importance of survey of (under)graduates’ perceptions of their study programs helps to improve the quality of TVET curriculum, and could be important for TVET curriculum reform as conducted in many countries (e.g., Lubasha & Tripathi, 2012; Singh & Singh, 2008). Indeed, the value of surveying the perceptions of students on the relevance of the study program is something that the school committee should consider as being of practical

importance to our own educational institution. The lack of feedback from students may probably have been problematic to the school curricular that were intended to offer knowledge and skills for the world of work. Since there is little information about students' perceptions on the curricular in Cambodian TVET especially at my workplace, my study on this topic will serve as a helpful source for TVET curriculum development and improvement and brings the school to success in filling gaps between the curriculum mismatch and the needs of the industries.

The study of student interests will focus on graduates of a TVET institution, which is located in Phnom Penh and offers educational and training services from certificate levels to bachelor degrees in business and engineering studies. The study will be conducted in Phnom Penh, and a group of graduates of civil engineering field between the academic years 2011-12 will be contacted for questionnaires and individual interview. Those graduates work in different job positions and in different companies. The survey research will help to inform the leaders of the institution to look at the importance of student survey on the relevance of TVET curricular and the result will best serve for the school curriculum reform.

## **Statement of Problem**

The mismatch between education and employment is critically concerning to many related stakeholders. They are also concerned that most universities and TVET institutions have provided knowledge and skills, which are not relevant to industries (ADB, 2009; UNDP, 2011). Therefore, as in many countries, Cambodian graduates find it difficult to deal with the jobs available in labor market when their knowledge and skills are far different

from what they have experienced in schools (e. g., Lubasha & Tripathi, 2012; Singh & Singh, 2008).

The perceptions from students are often neglected by many universities and TVET schools in Cambodia; that is why study programs are often found out of date in the current world of work where graduates find it hard to enter. The student voice is often silenced, but it can be regarded as a key mirror to reflect the good match of school curriculum and the industry needs.

Moreover, the irrelevance of school curricula is the critical issue faced by many educational institutions in Cambodia (ADB, 2009; UNDP, 2011).

Therefore, the knowledge and skills needed by employers cannot be matched when employers hire graduates to perform the jobs. Thus, there are some frustrations for employers to employ graduates who have the knowledge and skills which are irrelevant to their needs. Many employers have complained about the knowledge and skills provided at schools while graduates have expressed their discontentment about what they have learned from schools.

## **Research Question**

Given this background to the study, the research study will propose the following research question, in order to explore and examine undergraduates' perceptions of the relevance of TVET study programs toward their current jobs:

“ What perceptions do graduates in a civil engineering degree (the academic year 2011-12) at one Cambodian Institution hold in terms of the relevance of their studies to their current jobs?”

## **Significance of the Research Study**

The focal findings of this research study will contribute to the quality of school curriculum development, and to the determination of the relevance of the study programs in terms of providing students with skills and knowledge required in the world of work in the field of civil engineering. Specifically, the study will be a helpful reference for the development of TVET quality improvements. Furthermore, the result will provide important information to relevant stakeholders in the TVET sector in order to help create the TVET stream as a main tool for equipping people with high knowledge, skills and competence for their employment and employability in the competitive world. Data in the study will hopefully be utilized for the improvement of curriculum and will also be used to determine areas of weaknesses. The findings can be used as a tool to provide instructors to better master their teaching practices and to aid TVET institutions to create a database on students' perceptions of their study programs. In order to make effective changes in offering any study programs, it is vital to receive feedback from students who are involved in the specific programs. Hopefully, this survey study will be a valuable asset, and its findings will also serve as a supportive document for researchers from different fields of study to use and build their foundation knowledge of TVET students' perceptions of the quality and relevance of study programs to job industries in the TVET system.

## **Chapter Two**

### **Literature Review**

By using the search engine Google Scholar and the James Cook University Library search engine with key terms including: the perceptions of TVET

students, the purpose of higher education and further education, the use of student feedback and survey, the quality of higher education and further education, the role of higher education (HE) and TVET, the relevance of study programs to industries, and TVET, I have found and downloaded many useful materials for my literature review of my topic. Although some materials seem to be out of date, they are still useful for the research study, because they can give an overview on the topic, and they can work as a foundation of knowledge to support the literature review.

## **The Role of Higher Education in Preparing Undergraduates for Workforce**

### **The international context.**

An article by Haveman and Smeeding (2006) stated that most Americans expect the nation's colleges and universities to promote the aim of social mobilization to make it possible for a student with capability to succeed. According to Mortese (2003), higher education can serve as a model of sustainability by fully integrating all aspects of campus life that students have experienced for their future lives. Furthermore, higher education has become a major driver of economic competitiveness in an increasingly knowledge-driven global economy when the world has faced many matters (Organization for Economic Cooperation and Development [OECD], 2010). To improve employment skills calls for quality teaching and holistic approaches within universities (OECD, 2010; Ben-Peretz, 2009). National and transnational discussions like the Bologna Process, regarding state regulations and incentives, as well as competition among private and state-run institutions all urge universities and educational and technical providers

to put quality teaching on their agenda (OECD, 2010). In addition, national quality assurance agencies push for reflection on the subject, even if their influence is controversial. Since higher education systems are increasingly diversifying, society is increasingly concerned about the quality of study programs offered to their consumers. This is not only the case in the academic stream, but is the case in the TVET stream.

**As many relevant stakeholders have recognized the importance of the study program in preparing students for jobs, Lauglo (2006) explained that ” TVET curricular refer to deliberate interventions to bring about learning which would make people more productive (or simply adequately productive) in designated areas of economic activity (e. g., economic sectors, occupations, specific work tasks)” (p. 11). This is because TVET has its great potential to enhance human capabilities and enlarge peoples’ choices (Ayuba and Pascal, n. d.). Therefore, the education system must be able to understand the needs and necessities of the economy and prepare learners for their economic lives (UNDP, 2011). Additionally, Klimek (2010) noticed that a skill refers to an ability to perform a particular mental or physical activity that may be developed through vocational training or practice. Klimek (2010) also noted that ” vocational education and training provides people with occupational or work-related knowledge and skills. TVET also includes programs which provide the basis for subsequent vocational programs” (p. xxviii).**

Therefore, TVET curricular are designed and developed as an education alternative to prepare students for the world of work (Klimek, 2010; Ayuba & Pascal, n. d.). The changing demands of the workforce in the 21st century



have created great challenging problems for TVET providers to respond quickly and efficiently to the continually changing skills requirements of the industries (Rafik, Treadwell, Triki, Gupta, & Najah, n. d.). This is important if developed countries are to stay competitive and challenging but it is even more important for developing countries to “ catch up” and fill the gap with the industrialized world (Rafik et al., n. d.). These challenges have resulted in growing debates and demanding solutions on developing better and more effective TVET systems that satisfy the national needs (Rafik et al., n. d.).

### **The Cambodian context.**

The state of the higher education system in Cambodia, consisting of both university education and vocational and technical training, is largely formed by three factors: very disparate organization mechanisms, poor quality output, and low enrolment (UNDP, 2011). These three factors are greatly slowing down the advancement of higher education and more capable human resources in the whole country, and there should be a major concentrated point when undertaking reforms in education. A total number of eleven ministries and agencies which provide higher education service thus have access to the public education budgets of Cambodia (UNDP, 2011). The Ministry of Education, Youth and Sports (MoEYS) and the Ministry of Labour and Vocational Training (MoLVT) are the two most important ministries regarding higher education in Cambodia, and while the Cambodian Education Law states that MoEYS is responsible for general, higher and vocational education, it does not provide any explanation for the role of MoLVT, which has resulted in a high level of challenges, and hardship in developing strong cooperation links between these Ministries in providing

educational and training services to learners (UNDP, 2011). Understandably, this makes coordination of the higher education system very difficult for the Royal Government of Cambodia (RGC) to take actions on this issue.

There are 38 public TVET institutions spread over 24 provinces of Cambodia under the Ministry of Labor and Vocational Training; and many NGOs, large-and-small enterprises, local centers, and other relevant stakeholders also operate TVET practice on a very small and localized scale with few exceptional cases (National TVET Development Plan, 2008). However, NGOs move in and out of skills training, depending on donor funds availability and/or donor interest.

At present, there are approximately 12 national NGOs that run institution-based skills training courses (National TVET Development Plan, 2008). The public TVET provision does not fully meet the need for basic and mid-level skills in the formal and informal economies, of NGOs and other local private centers, like Don Bosco schools, TAYAMA Business school, and EDC Training Center help to fill gaps. Lack of access to formal training on a national basis, weak links with industry, lack of entrepreneurial focus, poor quality control, and inadequate institutional financing continue to limit the quantity and quality of system outputs. Pich (2010) indicated a number of students are smaller in the TVET system than that in the academic stream while the employers need technical knowledge and skills for their business practices. This is the mismatch between higher education and the needs of industries, concerned by many stakeholders if the availability of solutions is not at hand (UNDP, 2011).

In summary, we can say that the quality in TVET in Cambodia is low. There should be coordination amongst these ministries to link the educational services to match the requirements of the industries while the relevance of curricular seems to be low when graduates tend to work (UNDP, 2011; ADB, 2009).

## **The Use of Student Feedback for Curriculum Development in Higher Education**

### **The international context.**

Authorities in higher and TVET education often use student feedback as a mechanism to improve course content and delivery. In the TVET sector internationally, survey questionnaires have been used to explore stakeholder perceptions of the quality of TVET education and of the match between the skills of graduates and the needs of industry. For Munro (2008), it is ideal that feedback results are used to assert the strengths and find out areas of improvements in organization.

As the practice of survey research is important, Lubasha and Tripathi (2012) surveyed stakeholders' perceptions in VET programs in Tanzania, which are relevant to the quality all stakeholders may think, while Singh and Singh (2008) mainly focused on employability skills in Malaysia. Both studies have aimed at the improvement of study programs offered at educational and training institutions in order to perceive the quality of education and training as the key for graduates to be employable after they graduate from schools (Lubasha & Tripathi, 2012; Singh & Singh, 2008). In the study, Lubasha and Tripathi (2012) found that the determinants of quality in the VET programs such as the quality of VET programs, the relevance of VET programs to

employment trends and entrepreneurship, and the perception of delivering the quality VET programs, which are critical for improving the quality of education provided by VET programs in Tanzania. The survey result of Singh & Singh (2008) indicated that significantly employers tend to hire local graduates from public universities to non-public graduates. This is because they believe that public graduates have the knowledge and skills they need for their business.

Another survey study of 434 TVET graduates in Ghana which was done by Dasmani (2011) indicated that limited teaching and learning facilities for instructors and learners, large class sizes, and weak linkages with employers can lead to poor training and education of students. Dasmani (2011) added that this lack of preparation for the job entries put more pressure and working place difficulties to those graduates. This means that the survey finding is not only important for universities, but it also helps to inform TVET institutions about the perceptions of employers and students whether the TVET programs are at best quality to fill the gaps. It can also serve as an informant in offering better quality TVET programs. Therefore, many countries (e. g., Australia, England, Wales, and so forth) have created specialized research centers for VET and HE (Chalmers, 2007) and many international conferences are organized each year to disseminate and share the results of research in this area, in order to help the TVET sector to be flexible in the world of work (Rafik et al., n. d.). Rafik et al. (n. d.) also added that " the main aims of this survey research are: (a) to investigate the current skills gaps in the Libyan manufacturing sector; (b) to make recommendations to the national TVET providers to enhance the skills they

provide; and (c) to make recommendations to establish systems that improves the responsiveness of the TVET providers to the emergent needs of the industry” (p. 1).

Like the above points by Rafik et al. (n. d.), Chalmers (2007) claimed that experience, satisfaction and engagement of each student can be reached through using survey practice. Additionally, Chalmers (2007) recognized that using national student surveys are intended to demonstrate trustfulness and worthwhileness of study programs, and to explicitly articulate a particular view on what constitutes the quality of teaching and learning through student perceptions. Therefore, how the survey results can be used for the evidence-based curriculum development and improvement (Chalmers, 2007; Rafik et al, n. d.).

### **The Cambodian context.**

As discussed in the global context, the survey of student feedback or perceptions is a useful tool in order to make school curricular change in according to the needs of industries. However, at this Cambodian TVET institutions, the survey of students’ perceptions and feedback is not yet conducted although survey research can give the school a great deal of information from labor market and industries. Because no surveys have been done or published on student perceptions in Cambodia, it is difficult to find the literature review to support the research study.

As seen recently at the Cambodian TVET institution, the school management team has used the telephone survey on graduates whether those graduates hold job positions. The result of the telephone survey has been kept secretly.

Furthermore, student surveys on teacher teaching have been done, but no survey on student perceptions on the relevance of the study program.

Although information from student feedback can help the school make reform the school curriculum in order to keep abreast with the needs of industries, this case is absent from the school. The action of keeping old curricular is the weak point that should be urgently considered if the school is in the competitive world of providing technical services to students.

## **Chapter Three**

### **Methodology**

As the topic of this study suggests, the study is a type of a survey research.

Survey research is sometimes used by schools or other stakeholders of the related fields in order to get feedback from graduates, and which can be excellent vehicles for measuring opinions and orientations in a large

population (Rubin & Babbie, 2011). In order to get a deep understanding of perceptions of TVET graduates through survey research, this study will use

the qualitative and quantitative data collection methods to get both primary and secondary data. " The use of mixed methods is to build the synergy and strength that exists between quantitative and qualitative research methods

to understand a phenomenon more fully that is possible using either quantitative or qualitative alone" (Gay, Mills & Airsian, 2009, p. 462).

Creswell (2009) also highlighted that most researchers use a mixed methods design because they want to enlarge understanding by integrating both qualitative and quantitative research, or they want to better understand, explain or build the results from this approach.

In this research, the following sampling methods, data collection methods, limitations of methods, data analysis, ethical issues, and other cases will be raised and discussed in detail in order to capture the practice of the whole research methodology of the study.

## **Sampling Methods**

Berg (2009) indicated that the rationale of "using of subjects is to make inference about some larger population from a smaller one-the sample" (p. 48). That is, it is important in quantitative research that researchers keenly consider the probability sampling method (Berg, 2009). However, for qualitative research, "sampling is the process of selecting a small number of individuals for a study in such a way that the individuals chosen will be good key informants (e. g., collaborators, co-researchers) who will contribute to the researcher's understanding of a given phenomenon" (Gay et al., 2009, p. 135).

Since a deep understanding of participants' perspectives creates the very core of a qualitative research study, the researcher will use a purposive sampling method (one of nonprobability sampling techniques); that is, the researcher relies on his or her expert judgment to select a typical sample of the population (Gay et al., 2009; Singleton & Straits, 2005). This is also because each participant is believed to be "thoughtful, informative, articulate, and experienced" with the area of research topic (Gay et al., 2009, p. 135). Therefore, the researcher will use homogenous sampling which is "selecting participants who are very similar in experience, perspective, or outlook; this produces a narrow, homogeneous sample and makes data collection and analysis simple" (Gay et al., 2009, p. 137).

As indicated above, the participants are ex-students who graduated with a civil engineering degree in the academic years 2011-2012, and they are currently employees holding various positions at different companies. Thus, the researcher can purposefully access the participants in order to get the deep understanding of their opinions about the quality and relevance of their study program of civil engineering and the needs of knowledge and skills from the employers. As the purpose and importance are clearly explained by the researcher, the participants will be asked to volunteer in the research study. With this regard, they are believed to have a deep understanding of the relevance of their study programs to their current jobs.

With the purposive selection of a group of graduates with a civil engineering degree in years 2011-2012, the participants with their current jobs are strongly believed to be best for the research topic. The researcher hopes that the participants will be able to give the truths about their study program relevance to the needs of employers. However, the limitation of this selection method will not be able to make a wide generalization of the whole population of the school because a number of participants will be small and limited to the field of engineering (Gay et al., 2009; Berg, 2009).

## **Data Collection Methods**

The survey research method is sometimes used by many schools in order to get feedback from graduates, and it can be an excellent tool for measuring opinions and orientations in large populations (Rubin & Babbie, 2011). With the purpose of getting the views of undergraduates about the relevance of their study program to the needs of employers, the following research methods will be used in order to gather important data from the field.



## **Questionnaires.**

A questionnaire method is widely useful to many researchers in both the private and public sectors because questionnaires can conveniently be given or sent to relevant individuals to answer or complete a number of questions, and respondents are asked to return questionnaires (Kothari, 2004; Singleton et al., 2005). They are convenient because questionnaires can easily be offered to the respondents, and the respondents can answer the questions on their own when they have enough time to complete the whole questionnaires.

Many researchers have also used the questionnaire method because questionnaires are low-cost, accessible to larger participants, extensively geographic, and free from bias from researchers (Kothari, 2004; Creswell, 2009). Kothari (2004) and Gay et al. (2009) showed that a survey is a vehicle for collecting data describing one or more characteristics of a specific population by asking members a series of questions using questionnaire forms.

In spite of the wide use of questionnaires, Kothari (2004) pointed out the main limitations of using questionnaires as follows: (a) low rate of return of the duly filled in questionnaires and bias due to no-response is often indeterminate; (b) it can be used only when respondents are educated and cooperating; (c) the control over questionnaire may be lost once it is sent; (d) there is inbuilt inflexibility because of the difficulty of amending the approach once questionnaires have been dispatched; (e) there is also the possibility of ambiguous replies or omission of replies altogether to certain questions; interpretation of omissions is difficult; (f) it is difficult to know

whether willing respondents are truly representative; and (g) this method is likely to be the slowest of all (p. 101).

In light of the above reasons, the researcher will carefully prepare the general form, the question sequence, and question formulation and words in the structured questionnaires as the researcher is not experienced with the use of survey questionnaires (Kothari, 2004). In the questionnaires, the researcher will focus on the following points: demographic data, the quality of study programs, the relevance of the study programs to the jobs, and the participants' perceptions of their jobs in terms of study programs. These points will help the researcher to answer the research questions about understanding the perceptions of undergraduates about the relevance of their study programs to their current jobs.

With help of a lecturer from Civil Engineering Department and a list of graduates of civil engineering degree in years 2011-2012, the researcher will contact graduates through phone calls and emails in order for volunteering for answering and completing the questionnaires. According to Gay et al. (2009), the sample size for survey research is common between 10% and 20% of the whole population because the population of this research is about 250. However, the researcher will ask 120 graduates who have jobs, and they will be given questionnaires to voluntarily answer and complete the questionnaires with their honesty and kindness in case that some of respondents will not return questionnaires. The participants themselves will administer the questionnaires. Nonetheless, an explanation of some questions will help the participants answer with clarity and accuracy. The

questionnaires will be written in Khmer language that all the participants can fully understand and answer those questions clearly.

### **Individual interviews.**

After the researcher uses the questionnaire method, the researcher will employ the interview method that is another alternative to collect data survey. The interview method involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses (Kothari, 2004; Rubin & Babbie, 2011). Furthermore, it is a tool that allows the researcher to flexibly move beyond the line of question, and it is helpful if the participants can be observed directly, and allows the participants to give more information (Creswell, 2009).

With the analysis of the questionnaire results to find out the main themes of responses, the researcher can identify who the participants are for personal interviews in the second step of the research. Thus eight participants will be carefully selected through the results of questionnaires. They are representatives for civil engineering graduates because they are believed to answer the questionnaire questions accurately and have a deep understanding of the relevance of their study programs to their current jobs. Time for each participant to be interviewed will be during time break in order to avoid work interruptions.

The interview method can be structured, unstructured, or semi-structured, as to allow the flexibility of questions and answers in order to fully understand graduates' perceptions on the curriculum relevance to their current jobs (Williman, 2011). However, the researcher will choose to

conduct the personal interview with a small number of graduates with a structured interview model. This is because the research has less experience in the research field. On the other hand, the researcher will gain a clear understanding of information from respondents when respondents understand the purpose of the interview (Kothari, 2004).

Despite the advantages of using the method to go beyond simple responses from the participants, there are the limitations of this method (e. g., indirect information filtered by the views of participants, information is gathered in an arranged site rather than in a natural setting, the presence of the researcher which can bias responses, and not all the participants having equal thoughts, feelings and understanding of the same questions and topics) (Creswell, 2009). Similarly, Okojie, Okojie-Boulder and Boulder (n. d.) also added that a limitation of this method is that it can be time consuming and the truth of participant responses will be limited. Therefore, the role and art of the researcher is vital in using the method when the in-depth interviews are the key to get a full understanding of the research topic (Berg, 2009; Creswell, 2009).

## **Ethical Considerations**

There will be ethical problems in research when the research deals with humans. As Williman (2001) stated that there are two aspects of ethical issues in