STUDY ON THE IMPROVEMENT OF VOCATIONAL AND TECHNICAL PROGRAMS AT THE HIGHER EDUCATION LEVEL IN TAIWAN -BASED ON STUDENTS' PERSPECTIVES -

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ABSTRACT

Technical programs at the higher education level play an important role in the journey of economic development. Technical institutes in Taiwan have been facing challenges while the Taiwan economics rapidly changes in the recent years. Nowadays, the fast revolution of technology and socioeconomic structures just challenges the efficiency and quality of technical institutes. In order to meet the society needs, it is necessary to reevaluate the functions of technical institutes.

This study was conducted to identify the functions and qualities of technical institutes in Taiwan by surveying students' perspectives. Students' self-rating questionnaires were adopted in this study. Finally, this study drew several conclusions based on the research findings. Some suggestions were provided at the end of this study.

INTRODUCTION

Vocational and technical institutes at the higher education level play an important role during the process of economical development in Taiwan due to their practical functions. In order to prepare more youngsters for recruiting the enterprise to accelerate economic development of this country many technical institutes have been increasingly established to enhance the competition for the new generation and the country (Yuao, Liu, & Chen, 1996).

However, it seems no longer enough for youngsters with job skills to work successfully in the modern era of science and technology. In this competitive era, the world of industries needs the employees to be well-prepared with learning motivation, reasoning skills, interpersonal skills, problem-solving skills, and group skills. Particularly, the industry and business require professional people who can integrate various professional knowledge and skills to improve work efficiency and quality (Stitt-Gohdes, 2001). During the period of educational reform in Taiwan, technical institutes should reevaluate the contexts and curricula to ensure the educational quality for the national urgent needs (Stevenson, 2003).

Research purpose

In order to design practical university policies and develop functional curricula in the continuing program of technical institutes, this study was conducted to identify the major concerns of students in the continuing programs of technical institutes toward their learning achievement and professional preparation.

Research Questions

According to the research purpose, three research questions were developed as the following: (1) What were the major motivations for students to enroll in continuing education programs? (2) What were students' attitudes toward their achievements in the field of professional skills, reasoning skills, and humanistic achievement? And (3) What were students' expectations on the improvement of these programs and their professional preparation?

METHOD

Instrument

This questionnaire was developed using Delphi Technique and Experts' verification. After several revisions, this instrument, finally, included five major domains: (1) Personal data; (2) Reasons for enrolling in technical institutes (9 items); (3) Perspectives on professional achievements; and (4) Expectations on the improvement of technical institutes (8 items). A five-point Likert's scale was employed to identify students' perspectives.

Population and Sample

The major population of this study was all students who enrolled in continuing education programs of technical institutes at higher education level in Taiwan. The used sample in this study included 455 senior students in the Southern area of Taiwan. Three hundred and three questionnaires (n=303) were returned at 67% return rate.

Data analysis

The collected data were analyzed by using the SAS software to address the posited questions. The mean and standard

deviation of each item and domain were computed for descriptive analyses.

RESULTS

The quality of curriculum and instruction in the technical institute dominates the effects and efficiency of universities on students' technical skills growth, reasoning skills growth, and humanistic growth. This study indicated that, for all students, the professional employed abilities were recognized as more important to their future career success than diploma. However, the first reason for most students to enroll in the continuing programs was to pursue a Bachelor's Degree, followed by the practical functions of technical institutes to provide life-long learning environment. Students in the survey generally believed that academic diploma would be great helpful for obtaining more job opportunities. After graduating from universities, most students did not plan to continue graduate studies (see Table 1), but enter employment market.

Table 1: Student attitudes toward learning achievement in continuing education programs

Reasons for students to enroll in continuing education programs at technical institutes	**Mean**	**Std**
1.My current major is related to my current position.	3.36	1.21
2.A Bachelor's Degree is important to my position.	3.43	0.96
3.I am pursuing a Bachelor's Degree to improve my capability.	3.54	0.88
4.I am pursuing a Bachelor's Degree for social expectation.	3.85	0.92
5.Technical institutes provide a life-long learning environment.	3.58	0.96
6.Technical institutes provide good opportunities for transferable skills.	3.52	0.90
7.A diploma is more useful than employable skills.	2.93	1.07
8.I plan to pursue advanced degrees.	3.09	0.91
Satisfaction on learning achievements in the program		
A. Technical proficiency		
10.I am satisfied with the required job skills in the enterprise. .	3.13	0.94
11.The technical institute builds my transferable skills.	2.97	0.97
12.I have taken theoretical courses for advanced degrees.	3.44	0.80
13.The theories learned from this program can improve the effectiveness of my work.	3.18	0.95
14.I am confident in improving the efficiency and quality of my future job.	3.19	0.88
15.I believe that I can get a job in the field of my major.	3.01	0.88
16.This institute has advanced facilities used in the industry and business.	2.76	0.98
17.This institute provides sufficient employment information.	2.86	0.94
18.This institute provides plenty of information regarding current technology.	2.91	0.90
19. Most of my professors have the experience in the industry and business.	3.09	0.96
B. Reasoning skills		
21. I have taken plenty of courses regarding problem-solving skills.	3.32	0.84
22. I have taken plenty of courses regarding interpersonal relationship.	3.25	0.91
23. My experience in this program facilitates my reasoning skills.	3.52	0.77
24. This program facilitates my ability to integrate various knowledge domains.	3.33	0.86
25. This program improves my problem-solving skills.	3.24	0.83
26. I can accept the different values from mine.	3.52	0.84
27. This program opens my mind and expands my vision.	3.76	0.78
28. I make acquaintance with people, who are helpful to build my professional career.	3.76	0.85
29. I learn various knowledge in this program.	3.70	0.79
30. I make acquaintance with people in a variety of professional fields.	3.78	0.82

C. Humanistic cultivation		
32. I have taken many courses related to humanistic knowledge.	3.19	0.90
33. The courses in this program increase my responsibility.	3.45	0.82
34. This program stimulates my learning motivation.	3.59	0.82
35. My experience in this program improves my communication skills.	3.53	0.82
36. The studying experience increases my international scope and vision.	3.43	0.89
37. I am acquainted with foreign culture.	3.03	0.96
38. My foreign language proficiency is facilitated.	2.97	0.92
D. Expectations on the improvement of technical institutes		
40. I would like to take more practical courses.	4.04	0.84
41. I would like to take more courses about advanced theories.	3.67	0.83
42. I hope that this institute offers more psychological courses.	3.90	0.81
43. I would like to take more courses regarding humanistic cultivation.	3.98	0.84
44. I need advisors' counseling services.	3.98	0.80
45. I hope industry and business professionals can teach some courses in institutes.	4.33	0.73
46. I would like to work in the industry and business as an apprentice .	4.14	0.81
47. I would like to have classes on the campus located in neighboring area.	4.18	0.82

Based on the data analysis, the following conclusions were drawn from students' perspectives on their learning experience:

1. In the fields of professional skills, students were satisfied with taking some courses, which are helpful for the students who planned to continue graduate studies. However, most students in technical institutes did not prefer pursuing advanced education. These theory-based courses were not contributive to students' employed abilities. Students did not feel confident in their professional proficiency since the applicable technical skills and schooling from the institutes were insufficient. Students generally expected the instructors in technical institutes are more experienced in industry and business field. This finding indicated that the curricula and instruction used in technical institutions were expected to be more applicable.

2. In the field of reasoning skills, students were the most satisfied with the creation of their social network. They made acquaintance and built interpersonal networks with individuals majoring at various professional fields. The expansion of social network was believed to be crucial for their career. The experience of studying in the higher education institutes facilitated students' reasoning skills, and capabilities of integrating different professionals. Students believed that the improvement of reasoning skills was derived from the interaction among students themselves, not from curricula and instruction. More courses related to reasoning and logistic skills were expected.
3. In the field of humanistic growth, students were pleased with the enhancement of learning motivation and sense of responsibility, communication skills, and international scope and vision . They also requested for more humanistic courses, which were decisive to their future career.
4. In order to prepare with employed abilities, students in higher education institutes strongly expected that well-experienced employees in the industry and business could teach some courses in technical institutes. This policy might assist learners to envision the functions of theories and bridge the needs of students and enterprise.

DISCUSSIONS

Vocational and Technical programs at the higher education are highly expected to provide general publics with life-long learning education and integrate universities and enterprise. However, this study indicated that students enrolled in these higher educational institutes mainly to pursue for a Bachelor's Degree, not for professional growth to improve their employment performance. This fact might threat these technical institutes at higher education level to reevaluate their mission in order to further facilitate the missions of both sides.

Based on the retrospectives regarding the experiences of economic development, the industry and business highly expected technical institutes to prepare students with professional training (Zinser & Lawrenz, 2004). In order to succeed in the high technical era, individuals should be prepared with high technical knowledge and skills, reasoning skills, and humanistic cultivation (Bailey, 2003). At the moment of educational reform, technical institutes should reevaluate their educational goals, curricula, and policies (Chang, 1996). Based on the findings of this study, the suggestions are as following:

1. Technical institutes at higher education level should reinforce their community-based services to update the employment

skills and knowledge of general publics in the neighboring area.

2. Technical institutes should integrate the efforts of academic professors and veteran experts in the enterprise through curricula development and instruction improvement to fulfill the needs of students with local industries and business.
3. In order to fortify today students' competency to meet the competition in the oncoming future, higher institutes need not only to train students' employment skills , but more need to nurture their generalized skills, such as thinking skills, creative thinking, analyzing competency, and scientific background knowledge, to create knowledge and solve problems encountering tomorrow (Stevenson, 2003).
4. Institutes at higher education level are also expected to prepare students with internationally accredited skills and knowledge to successfully enter the global era. Current curricula used in higher educational institutes should be developed to meet the global requirement of technology tomorrow (Schmidt, 2000).
5. In this global era, international cooperation comes together with competition. Higher education institutes, therefore, should build cooperative mechanism to create, and share, advanced research achievement in the fields of technological development, scientific discovery, and employment skills (Lee, 1997; Zeiss, 2000).

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