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RESEARCH ARTICLE

Teaching According to the Competency-based at Technical Pedagogical Universities

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Abstract:

Background:

Six basic characteristics of competency-based teaching are: (1) teaching is conducted based on performance and individual needs; (2) the process can provide immediate learner feedback; (3) performance competencies are determined based on work analysis; (4) the program contains measurable goals and (6) uses performance standards as a reference for performance evaluation.

Objective:

This study is conducted to investigate the training quality of Technical Pedagogical University according to competency-based teaching.

Methods:

This study uses a quantitative approach, a survey of 54 school administrators and 186 lecturers from Technical Pedagogical University and 43 school administrators from Vocational Schools in Vietnam.

Results:

The main findings of the current study are (i) the training quality at Technical Pedagogical University that school administrators and lecturers from Technical Pedagogical University reported was relatively high; (ii) the levels of satisfaction with task requirements at Technical Pedagogical University reported by school administrators at vocational schools were relatively high.

Conclusion:

Although the evaluation from school administrators and lecturers from the two institutes is quite high, educators should focus on diversified and effective methods to enhance the quality of teaching in educational settings, especially competency-based teaching in universities.

Keywords: Competency-based teaching, School administrators, Training quality, Satisfaction, Task requirement, Universities.

1. INTRODUCTION

The cause of industrialization and modernization of a country is increasingly demanding in terms of quantity, quality, and the rationality of human resource structure. Therefore, developing human resources, especially high-quality human resources, is a great concern of education in all countries. In order to develop high-quality human resources, education and training play a decisive role. Akhter (2015) assumed that education, clothes, food, nutrition, health facilities, cleanliness, and other factors contribute to human resource development.

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Education is the most significant instrument among them [1]. Only education and training can generate people with professional competence, the creative capacity to master science and technology, and the ability to adapt to changes in social life to handle situations arising in the market economy. In the education and training system, teachers are the determining factor in the system's quality. Moreover, some researchers reported that teachers have strongly affected student achievement [2 - 4]. Therefore, in order to improve the quality of human resource training, we must first improve the quality of teacher training. Training quality teachers means training workers who have knowledge, skills, and professional

attitudes to practice, and at the same time, learn to have creative capacity, the ability to change and adapt to new situations, the development of science and technology, and new professions. In order to train qualified human resources with competency, first of all, there must be a team of teachers capable of competency-based teaching. That is, they must know how to accurately determine the standards of the competency of employees to design programs, organize teaching and evaluate teaching results according to those competency standards [5].

Competence is able enough to do a job well, such as professional capacity, organizational capacity or sufficient or inherent conditions to do something, such as ability thinking power, but there are no clear regulations on specific jobs as well as regulations on standards to be achieved [6]. The authors use the term competency relatively uniformly as the ability to perform activities (tasks, jobs) in the profession according to the standards set for each of those tasks and jobs [6]. The competency approach flourished in the 1990s with a series of large organizations in America, Britain, Australia, New Zealand, and Wales [7]. Competency standards are developed in response to political and economic requirements and to prepare the workforce for a globally competitive economy. Many human resource development scholars and practitioners view this approach as the most effective way [8] to help education and training meet workplace requirements [9] and as a way to prepare the workforce for a globally competitive economy.

Competency-based teaching is a teaching method based on prescribed standards for a profession to teach and learn according to those standards without being rigidly dependent on time [10]. This method has been researched and implemented effectively in many countries worldwide, including America, Britain, Australia. Six basic characteristics of competency-based teaching are: (1) teaching is conducted based on performance and individual needs; (2) the process can provide immediate learner feedback; (3) performance competencies are determined based on work analysis; (4) the program contains measurable goals and (6) uses performance standards as a reference for performance evaluation [8]. When discussing competency-based teaching, there are many different conceptions. Norton (1987) said that there are five basic signs to identify a teaching method that is according to the competency-based approach: (i) the competencies that need to be equipped for learners are clearly defined, assessed, and announced to learners before teaching, (ii) the standards and conditions for assessing academic achievement are prescribed, (iii) the curriculum is designed based on individual development, (iv) assesses learners' ability based on work performance factual and there must be sufficient evidence to confirm the level of achievement [11].

Competency-based teaching at Technical Pedagogical University is a teaching method that focuses on meeting the professional standards of teachers for students who will be teachers in the future. The training objectives are defined in the regulations on the organization and operation of these universities in the university's charter, at the same time associated with higher education and vocational education requirements. That is to train a team of lecturers with knowledge, professional skills, ethics, professional conscience, a sense of discipline, industrial style, and good health to create conditions for them to practice effectively. Technical pedagogical universities have the important task of training teachers for the vocational education system. This team will inherit and promote the training methods in the Technical Pedagogical University to train a team of qualified technical workers to serve the cause of industrialization and modernization of the country.

There has been a scarcity of research on teaching according to the competency approach, particularly among school administrators and lecturers from vocational schools and universities. This study assessed the satisfaction of training quality of school administrators and lecturers in order to close this gap; the research findings will serve as a sound scientific foundation for providing coping strategies to help improve and develop training quality according to competency-based teaching at the Technical Pedagogical University. The study begins with a review of the literature on competency-based teaching. The second half comprises the research methodology, results, and a core analytical framework. Finally, the conclusion is found in the final section.

2. METHODS

The subject of this research includes 54 school administrators and 186 lecturers from Technical Pedagogical Universities. The other sample is employers in vocational training institutions, including 43 school administrators who are heads of subject groups, deputy heads of departments and leaders of several vocational schools in the provinces of Nam Dinh, Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Thua Thien Hue, Da Nang, Binh Dinh and Ho Chi Minh City.

The authors examined the training quality at Technical Pedagogical University by developing the evaluation of training quality at Technical Pedagogical University through a survey of opinions of school administrators and a teacher questionnaire with 22 items; this questionnaire is based on a 5-point Likert scale, which was used for all items, ranging from one to five (1 = very low; 2 = low; 3 = moderate; 4 = high; 5 = very high). To assess the levels of satisfaction with task requirements of employees graduating from Technical Pedagogical University reported by school administrators at vocational schools, the authors created the satisfaction levels with task requirements of school administrators at vocational school questionnaire with 22 items. This questionnaire is also based on 5-point Likert, ranging from one to five (1 = very low satisfy, 2 = low satisfy, 3 = moderate satisfy, 4 = high satisfy, 5 = very high satisfy).

3. RESULTS

As shown in Table **1**, the researchers evaluated the training quality at Technical Pedagogical University for 54 university administrators and 186 lecturers from Technical Pedagogical Universities using 22 criteria: Vocational training program development; Teaching preparing; Teaching in class; Learning assessments of vocational students; Scientific assessment; Management and education of vocational students;

Management of tools and equipment for vocational training; Coordinating work in groups, teams; Handling conflicts and resolving pedagogical situations; Pedagogical communication; Professional competence (electronics, informatics, manufacturing mechanics, dynamic mechanics); Scientific research; Accessing to new technology; Self-study, self-research for professional development; Using IT in teaching, scientific research and training management; Using a foreign language; Participating in professional organizations; Participating in social activities; Counseling and career guidance for vocational students; Professional behavior; Moral qualities and Health status.; in which pedagogical communication is the mutual exchange of information between educational participants through verbal and nonverbal expressions [12]. Scientific assessment is based on evaluating and weighing all available scientific evidence that is pertinent [13]. Scientific research studies should be systematically planned before performing them [14]. Teachers instill moral values and behaviors in their students and serve as role models by demonstrating desirable characteristics and traits in school and society [15].

The levels of training quality of school administrators and lecturers from Technical Pedagogical University were relatively high. The data indicated that the most chosen option at the "very high" level was Teaching preparing (20.2%), and the following choice was Vocational training program development (19.2%) and Learning assessments of vocational students (12.2%). At the "high" level and "moderate" level, the most chosen option was Professional competence (electronics, informatics, manufacturing mechanics, dynamic mechanics) with 54.9% for the "high" level and participating in professional organizations with 64.4% for the "moderate" level, and accessing to new technology (13.5%) and Health status (38.5%) were the least chosen options. With the "very low" level, the most chosen option was Using a foreign language (5.9%).

As shown in Table **2**, the researchers utilized 22 criteria to evaluate the training quality at Technical Pedagogical University, as reported by 43 administrators of vocational schools: Vocational training program development; Teaching preparing; Teaching in class; Learning assessments of vocational students; Scientific assessment; Management and education of vocational students; Management of tools and equipment for vocational training; Coordinating work in groups, teams; Handling conflicts and resolving pedagogical situations; Pedagogical communication; Professional competence (electronics, informatics, manufacturing mechanics, dynamic mechanics); Scientific research; Accessing to new technology; Self-study, self-research for professional development; Using IT in teaching, scientific research and training management; Using a foreign language; Participating in professional organizations; Participating in social activities; Counseling and career guidance for vocational students; Professional behavior; Moral qualities and Health status.

Table 1. Evaluation of training quality at Technical Pedagogical University through a survey of opinions of university administrators and lecturers.

S.No.	Competencies of University Student	Training Quality (%)				
		1	**2**	**3**	**4**	**5**
1	Vocational training program development	0	8.5	40.4	31.9	19.2
2	Teaching preparing	0	6.8	39.5	33.5	20.2
3	Teaching in class	0.8	5.2	55.4	38.6	0.8
4	Learning assessments of vocational students	0	0	45.5	42.3	12.2
5	Scientific assessment	0	17.0	40.4	36.2	6.4
6	Management and education of vocational students	1.6	17	46.3	26.7	5.8
7	Management of tools and equipment for vocational training	0	17.0	44.7	34.0	4.3
8	Coordinating work in groups, teams	3.4	23	51.9	21.7	0
9	Handling conflicts and resolving pedagogical situations	1.7	23.9	60.2	14.2	0
10	Pedagogical communication	0.9	17.7	53	27.6	0.8
11	Professional competence (electronics, informatics, manufacturing mechanics, dynamic mechanics...)	0.9	1.7	40.8	54.9	0
12	Scientific research	2.1	21.9	51.1	16.4	8.5
13	Accessing to new technology	2.5	21.2	61.9	13.5	0
14	Self-study, self-research for professional development	4.3	32.4	49.13	14.3	0
15	Using IT in teaching, scientific research and training management	2.6	22.4	49.2	25	0
16	Using a foreign language	5.9	27.9	42.4	23.9	0
17	Participating in professional organizations	1.7	17.8	64.4	16.1	0
18	Participating in social activities	0.9	12.6	51.1	32.1	2.4
19	Counseling and career guidance for vocational students	0	17.0	44.7	34.0	4.3
20	Professional behavior	3.5	16.5	60.8	18.3	0
21	Moral qualities	2.6	7.8	50	37.1	0
22	Health status	0	10.3	38.5	50.4	0.8

Table 2. Evaluation of the levels of satisfaction with task requirements through a survey of the opinions of school administrators at vocational schools.

S.No.	Competencies of University Student	The Levels of Satisfaction with Task Requirements at Vocational Schools (%)				
		1	2	3	4	5
1	Vocational training program development	18.4	32.5	38.3	10.8	0
2	Teaching preparing	13	13	57	13	4
3	Teaching in class	0	8.5	51.1	36.2	4.3
4	Learning assessments of vocational students	9.4	9.4	60.1	12.6	8.5
5	Scientific assessment	20.8	24.1	53.8	1.3	0.0
6	Management and education of vocational students	0	12.8	40.4	36.2	10.6
7	Management of tools and equipment for vocational training	0	10.6	48.9	31.9	8.5
8	Coordinating work in groups, teams	0	17.0	51.1	29.8	2.1
9	Handling conflicts and resolving pedagogical situations	0	14.9	53.2	27.7	4.3
10	Pedagogical communication	0	10.6	48.9	31.9	8.5
11	Professional competence (electronics, informatics, manufacturing mechanics, dynamic mechanics)	0	14.9	51.1	29.8	4.3
12	Scientific research	0	21.3	36.2	40.4	2.1
13	Accessing to new technology	0	12.8	48.9	36.2	2.1
14	Self-study, self-research for professional development	0	17.0	40.4	36.2	6.4
15	Using IT in teaching, scientific research, and training management	0	17.0	44.7	34.0	4.3
16	Using a foreign language	2.1	31.9	51.1	6.4	8.5
17	Participating in professional organizations	21.8	26.1	52.1	0	0
18	Participating in social activities	13.0	13	57	13	4
19	Counseling and career guidance for vocational students	0	12.6	40.6	36.3	10.5
20	Professional behavior	0	8.5	40.4	31.9	19.2
21	Moral qualities	0	6.8	39.5	33.5	20.2
22	Health status	0	0	45.5	42.3	12.2

The levels of satisfaction with task requirements at Technical Pedagogical University reported by school administrators at vocational schools were relatively high. The study data illustrated that the most chosen option at the "very high satisfy" level was Moral qualities (20.2%), and the following choice was Professional behavior (19.2%) and Health status (12.2%). At the "very high satisfy" level and "high satisfy" level, the most chosen option was Health status with 42.3% for "very high satisfy" level and Learning assessments of vocational students with 60.1% for "high satisfy" level; Participating in professional organizations (0%) and Scientific research (36.2) were the least chosen options. With the "very low satisfy" level, the most chosen option was Participating in professional organizations (21.8%).

4. DISCUSSION

This study aimed to investigate the level of satisfaction with training quality at Technical Pedagogical University. Based on the information gathered, the investigation came to two primary conclusions: (i) the level of training quality at Technical Pedagogical University that was reported by school administrators and lecturers from Technical Pedagogical University; (ii) the level of satisfaction with task requirements of employees from Technical Pedagogical University that school administrators from Vocational School reported

The first finding was the level of training quality at Technical Pedagogical University reported by school administrators and lecturers from Technical Pedagogical University. With the training quality at Technical Pedagogical University reported by school administrators and lecturers from Technical Pedagogical University, the most chosen option at the very high level of training quality was Teaching preparation. The most chosen option at the very low level of training quality was Using a foreign language. The peculiarity of the University of Technical Pedagogy is to teach skills to students, so the teaching preparation of lecturers and school administrators was highly appreciated. Therefore, early preparation prior to teaching can positively impact student learning, especially through competency-based teaching, which teaches students to "know" it and "do" it.

Consequently, teaching preparation significantly impacts the developing training quality in education. In contrast, using a foreign language was not appreciated as teaching preparation. Most training programs are taught in the national language in the Vietnamese academic context, and only a few universities have high-quality training programs with 100% foreign languages. This also shows that using a foreign language in teaching is still quite limited in education, especially in higher education in Vietnam. This result helps the educational system in Vietnam, especially in Technical Pedagogical University, to improve their training and teaching quality. The training program must be built according to the objective approach, based on the results of the analysis of the profession and the analysis of the lecturer's function. Integrating professional knowledge and skills in modules to guide the process of

capacity building and involving businesses and vocational training institutions in the process of developing and accrediting training programs for lecturers and school administrators. With the level of satisfaction about task requirements of employees from Technical Pedagogical University that school administrators reported from Vocational School, the most chosen option at the very high satisfy level was Moral qualities and the most chosen option at the very low satisfy level was Participating in professional organizations. The educational objective of pedagogical universities is to educate and train talented people with proper moral qualities [16, 17]. As a result, the Technical Pedagogical University was evaluated by the school administrators of the vocational schools for the moral quality in teaching quality at a very satisfactory level. It has been reported that teachers/lecturers could promote objective moral purpose in their students, such as the virtues of courage, temperance, justice, honesty, and compassion. The moral dimension of teaching has less to do with explicit moral didactics and more to do with basic morality: moral education does not imply "teaching morality" but rather "becoming a moral teacher," which entails "expanding ordinary morality into the intricacies of teaching" [18]. Besides, information dissemination by professional organizations in Technical Pedagogical Universities is still limited. This also contributes to the fact that students in Technical Pedagogical Universities have less opportunity to participate in professional organizations. As a result, they do not meet the requirements of school administrators at Vocational School for employees graduating from Technical Pedagogical Universities [19].

CONCLUSION

Competency-based teaching is a teaching method based mainly on prescribed standards for a profession and teaching according to those standards without being rigidly dependent on time. Output standards are used for curriculum development, planning, teaching organization, and learning outcomes assessment. Teaching based on competency originates from the requirements of employees' competence at work, and teaching in training institutions must help learners meet all those requirements. Six basic characteristics of competency-based teaching are: (1) competency-based teaching, (2) teaching that meets individual needs, (3) providing immediate feedback to learners, (4) competency-based teaching is determined based on job analysis, (5) the program contains measurable goals, (6) using competency-based standards as a reference for performance evaluation. The most basic characteristics of competency-based teaching are output-oriented teaching, teaching and learning the capabilities of employees, evaluate and confirming competencies based on criteria and professional standards. The objective of teaching at Technical Pedagogical University is to form a system of competence of lecturers for students. The result of this study illustrated that the level of satisfaction with training quality at Technical Pedagogical University that was reported by school administrators and lecturers from Technical Pedagogical University was relatively high; the levels of satisfaction with task requirements at Technical Pedagogical University reported by school administrators at vocational schools was relatively

high. Although the evaluation from school administrators and lecturers from the two institutes is quite high, educators should focus on diversified and effective methods to enhance the quality of teaching in educational settings, especially competency-based teaching in universities.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical review and approval were not required for the study on human participants in accordance with the local legislation and institutional requirements.

HUMAN AND ANIMAL RIGHTS

No animals were used for studies that are the basis of this research. All the humans were used in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013 (http://ethics.iit.edu/ecodes/node/3931).

CONSENT FOR PUBLICATION

Informed consent was obtained from all individual participants included in this study.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The authors confirm that the data supporting the findings of this study are available within the manuscript.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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