



Professionalism of Technical Teacher in Vocational Education: Professional Knowledge That Contribute To A Teacher's Effectiveness

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Abstract: Teachers are the key to the educational system where professional standards of teaching are used as a set of criteria in determining professionalism of technical teachers. Teachers' professionalism and skills affect their students' progress and are an important component of the TVET institution. A competent teacher is form of quality assurance for students' learning. This study was conducted to generate an empirical evidence on the elements of professional knowledge that involves technical teachers in Malaysia Vocational College (VC). This study uses of quantitative method that involved data collection through the newly developed instrument of professional knowledge. A survey technique was used as the major method with the instrument on 300 technical teachers from Malaysia Vocational College (VC) around Malaysia. The results have shown that there were similarities and differences of the elements used by the teachers. There are several elements that shows highest score. Meanwhile, there is one element shows the lowest score in using the professional knowledge elements. In conclusion, this study shows the need of professional knowledge because it is an important aspect of strengthening the teacher's professionalism in the development of technical and vocational teacher.

Keywords: Professionalism, professional knowledge, vocational college, technical teachers, competence

1. Introduction

The profession of teaching is a profession that is not swallowed up in time and now its greatness can no longer be questioned. When the economic situation of the country was unstable in the late 1990s and until now it seemed that the profession of the college re-shone and every time the offer of training was issued, tens thousands of Sijil Pelajaran Malaysia (SPM) graduates flooded to obtain the form. After 2000 or 21st century, to become a teacher is not as easy as before because the screening and selection is so rigorous made by the Teacher Education Division. The quality must be maintained in making the selection.

The current education focusses to the field of Technical and Vocational Education and Training (TVET) by upgrading institutional vocational school to Vocational College (VC). Therefore, the level of competency VC teachers should enhance with systematic training methods to support the efforts of the Ministry of Education (MOE) as intended in its vision, such as; Human quality education Nation Prosperous and its mission; The Sustainability of System quality education to develop an Individual Potential in order to meet the aspirations of the country (Ministry Of Education, 2014). In addition, (Ibrahim, 2001) said every teacher should have (content knowledge), have the skills and personality in the process of teaching and learning (pedagogical knowledge and has a personality that can be models for the others. To translate Ministry of Education (MOE) vision and aspirations, VC Technical Teachers are given the responsibility to

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orient curriculum and co-curriculum based on the national Education Philosophy to produce skilled human capital in curriculum and co-curriculum. The MOE's efforts to enhance and uphold the vocational education level in Malaysia to stand with developed countries, has demanded the role of technical teachers in VC to act as effective educators. Accordingly, the concept of professional development is an important mechanism for producing more competent, productive and productive instructors as well as valuable human capital assets in educational organizations (Senin, 2004; Liakopoulou, 2011).

However, since there is no standard of competence in the field of technical education and teaching as guidance in our country, the quality of teacher performance has certain issues such as, work stresses, role conflicts, role blurs, absence of a social support system from principals and colleagues. The impact of the problem has caused many teachers resign and burn out that caused them retire earlier. This situation has affected the quality of our education. The existence of a standard allows the teachers to work with detailed guidance, able to see the conditions that need to be met and achieved and can be used to drive the improvement of teaching quality. The role of technical teachers is seen as increasingly important in the present era of globalization where they are expected to ensure the excellence of students is needed. This technical teaching professionalism refers to the behaviors, skills or attributes shown by an educator who has special knowledge and training in the teaching profession as well as having a teaching pattern and assessment of his work.

The challenges to technical teachers in education now includes efforts to equip themselves with skills in information and communication technology, addressing the problem of discipline and social, institutional management and effective as these, hope and community. The issue of teaching carrying out the bad example of the teacher (Ministry of Education, 2014). There is the possibility of policies education, national education Philosophy, vision and mission of MOE becomes less effective as a result of the failure of the teachers who can't understand the concept of professionalism (Arshad & Mohamed, 2009; With Kareem, 2010; Suhaimi, Hamzah & Meeting, 2011). This situation requires disclosure, added value in the aspect of knowledge, skills and attitude of the teachers in accordance with the needs of the VC organization, the needs of the individual and individual needs of the teachers itself. Therefore, a teacher needs to have sufficient skills and values in delivering knowledge to students to improve the quality of institutions which meets industry requirements.

The purposes of this study is to identify the dominant elements of the professionalism used by the technical teachers in Vocational College in Malaysia.

- a) To identify the elements of professional knowledge used by technical teachers in Vocational College in Malaysia.
- b) To identify the dominant elements of professional knowledge used by technical teachers in Vocational College in Malaysia.

1.1 Global Issues of Technical Teachers

There are many challenges worthy of noting. There is still lack of skills and knowledge and a very poor teaching learning environment e.g. dilapidated classroom and lecture theatres that will affect the motivation of teachers and students. Concerns regarding the competence of technical teachers should not be taken lightly as problems are pervasive in technical institutions across the country. The report by SEAMEO VOTTECH (2012) states that most of the TVET teachers are graduates from different levels but still lacking in knowledge, industrial practice, ICT technology and exposure...'. Education Statistics Indicator 2012/2013 reported that teachers in Cambodia have low academic qualifications and teachers did not receive training in pedagogy (Phin 2014). Other than that, Duggan (2015) states that TVET teachers in Mongolia are university graduates and they have to undergo additional teaching training to improve the quality of TVET teaching. Ahmed (2011) stated that the quality of Sudanese TVET trainers must be enhanced with further skills training in the application of ICT in teaching, as well as their basics knowledge about the teaching and learning. Saud et al. (2010) said that teachers who did not take the time to provide technological materials due to work commitments and lack of the knowledge and skills required to provide ICT-based teaching will affect the whole learning process. Therefore, teachers need to establish a knowledge of technology-rich teaching and learning environment and motivated to use the ICT as a powerful tool which can revolutionize teaching and learning processes.

Two of the weaknesses of TVET teachers are associated with the lack of skills in pedagogy which involves knowledge, skills, attitude and lesser work experience. Paryono (2015) states that the availability of TVET teachers is a critical issue as teachers' numbers are insufficient and declining, and that quality of teaching staff is inadequate due to their lack of industry experience knowledge in teaching. In the Malaysian context, TVET teacher competence has also become an issue. In this regard, the research in Malaysia, TVET is led by eight ministries: the Ministry of Human Resources, the Ministry of Works, the Ministry of Youth and Sports, the Ministry of Higher Institution, the Ministry of Education, the Ministry of Regional and Rural Development, the Ministry of Agriculture and Agro-Based Industry, and the Ministry of Defence. The ministries have the common objective and goal to produce a generation of Malaysians with knowledge and skills in their respective fields (Rasul et al. 2015; Ahmad et al. 2015). In general, vocational education, teachers are the main mechanism of education system (Paryono, 2015). Thus, the competencies of TVET teacher are the key points that reflects the quality of vocational education and the graduates. However, the quality and quantity of teachers has seriously discussed among the experts in Southeast Asia (Paryono, 2015; Soysouvanh et al., 2013) including Malaysia (Lee & Lai, 2016; Mohamad, Saud, & Ahmad, 2009; Paryono, 2015). Such phenomenon need a new shifted

for vocational teaching profession. TVET related bodies, must develop teacher with required competencies which specific to overcome the issues and challenges of TVET in Malaysia.

2. Research Methodology

This research involves the quantitative method. However, this paper intended to focus and explain the gap and similarities of professional knowledge element that used by Vocational Colleges' teachers in Malaysia. This method is used as it is more appropriate for the study, since the selected respondents are a large number of VC teachers throughout Malaysia. The polythomus data (Likert) were collected and analyzed based on the SPSS with the aid of computer application software, IBM Statistics Data Editor.

2.1 Population and Sampling

The population involved in this study was VC teachers throughout Malaysia and the respondents' distribution was according to the zone as shown in Table 1 below which shows the number of respondent's population involved in the study.

Table 1 - Sample study

No	Zone	States	Responden
01.	South	VC Kota Tinggi, Johor	30
02.		VC Batu Pahat, Johor	30
03.	Middle	VC ERT Setapak, Kuala Lumpur	30
04.		VC Port Dickson, Selangor	30
05.	North	VC Langkawi, Kedah	30
06.		VC Seberang Prai, Pulau Pinang	30
07.	East Coast	VC Kuala Krai, Kelantan	30
08.		VC Rompin, Pahang	30
09.	East Malaysia	VC Sibu, Sarawak	30
10.		VC Likas, Sabah	30
Total of Respondent			300

2.2 Research Instrument

The study was conducted using two approaches, namely (i) based on the analysis of the document by making a literature review through the integration of models and theories pertaining to training and professional development; and (ii) authorization and expertise. As a result of this approach, the researcher will outline the elements of professionalism based on competency components.

A questionnaire was used in order to obtain the desire data. Section 1 in the questionnaire consisted of demographic data and basic information of respondents. It consisted of item such as gender, age, education level, service duration and courses. Section B contained questions relating professional knowledge that includes 21 items.

In this study, researchers have developed research instruments based on literature review and document analysis that already been defined and validated all the elements and sub elements based on the expert's approval in the field of Vocational Technical Education and developing items based on expert consent. All the instruments also have been through the process of content validity by specialists in the field of Vocational and Malay Technical Education.

3. Results and Finding

The findings discussed are based on the data of the elements of the professional knowledge that were constructed after the face and content validity verifications by relevant experts. Data that had been collected were analysed in the context of professional knowledge elements and score mean were used to analysed and interpret the finding in this research. An explanation of score mean was based on the interpretation of the Likert Scale in the research instrument. Level of agreement was used to measure the perception Strongly Disagree-1, Disagree-2, Neutral-3, Agree-4 and Strongly Agree-5.

4. Professional Knowledge of Technical Teachers in Malaysia Vocational College

In the study of technical professionalism, there are four constructs involved: professional knowledge, professional skills, professional attitude and professional relationship. However, this paper focuses only on professional knowledge constructs and also determines the elements involved in this construct.

4.1 The Elements of Professional Knowledge of (VC) Technical Teachers

Table 1 shows 21 elements involved in this professional knowledge construct. Based on the analysis, element 11 (Teaching orientation according to industry needs) and element 21 (Using the appropriate technology according to the topic being taught) has the highest mean value, $\mu = 4.50$. While element 1 (Various teaching techniques) has the lowest mean value $\mu = 4.01$.

Table 2 - Elements of the technical teachers professional knowledge

N	Elements	Mean	Std Deviatio
1	Various teaching techniques	4.01	0.65
2	Teaching techniques according to student's ability	4.41	0.59
3	To be a consultant to students	4.32	0.47
4	New ideas in teaching methods	4.28	0.57
5	KBAT (HOTS) in teaching	4.39	0.60
6	National Education Philosophy (FPK) in teaching	4.42	0.53
7	Malaysian Education Blueprint 2013-2025 (PPPM)	4.40	0.69
8	Subject-based research	4.44	0.56
9	Action research	4.46	0.59
10	Innovation in teaching and learning	4.40	0.53
11	Teaching orientation according to industry needs	4.50	0.50
12	Collaborative concept with the industry	4.24	0.57
13	Specification of students according to industry requirements	4.41	0.60
14	The development of VC graduates.	4.36	0.63
15	The practice of learning teachers in the working atmosphere	4.45	0.56
16	Criticism and critical in using technology for teaching process	4.35	0.69
17	Application of knowledge from exercises to task field	4.38	0.58
18	Evaluate students' performance in teaching and learning	4.38	0.57
19	Adapting the teaching style to different student backgrounds	4.40	0.49
20	Computer software applications	4.20	0.58
21	Using the appropriate technology according to the topic being taught	4.50	0.53

Other than that, there are some element shows the similarities of the mean value such as, element 2 (Teaching techniques according to student's ability) and the element 13 (Specification of students according to industry requirements) with $\mu = 4.41$. Followed by element 19 (Adapting the teaching style to different student backgrounds), element 7 (Malaysian Education Blueprint 2013-2025 (PPPM) and element 10 (Innovation in teaching and learning) with the value of $\mu = 4.40$. Lastly, the element that has the same mean value is the element 17 (Application of knowledge from exercises to the task field) and element 18 (Evaluate students ' performance in teaching and learning) with the value of $\mu = 4.38$. The similarities and different of the mean value for each element can be seen clearly as shown in Fig. 1 below.

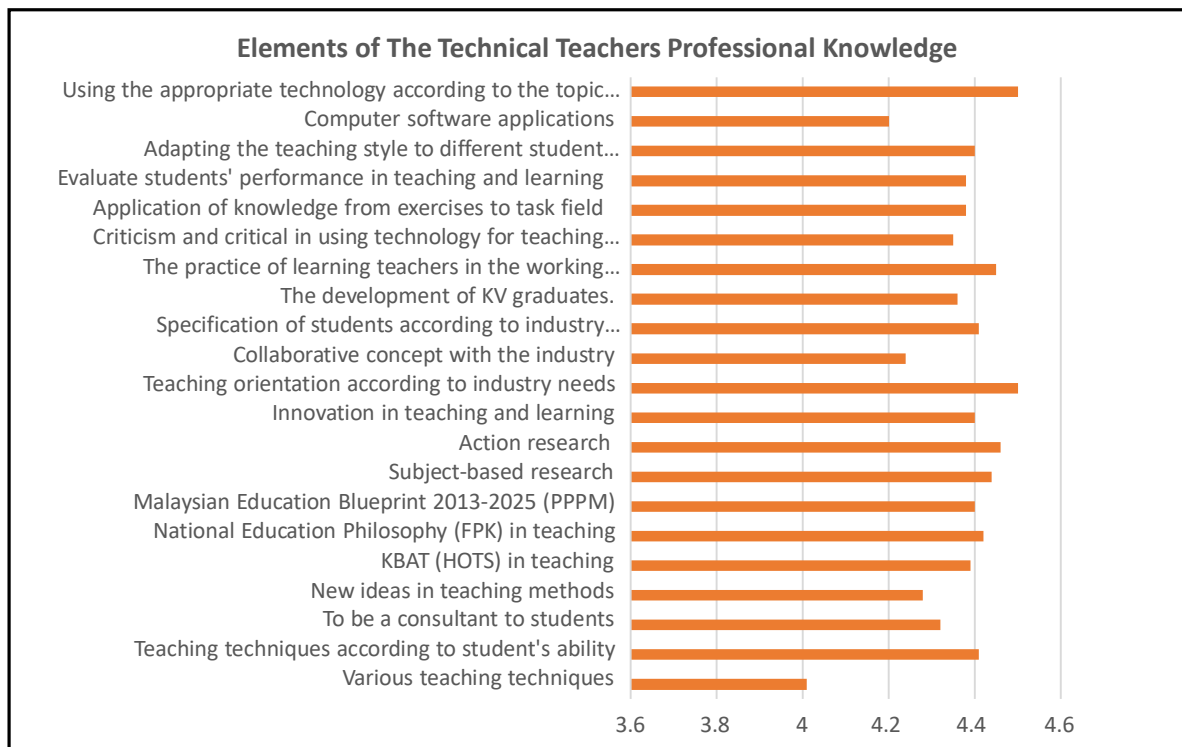


Figure 1 - Elements of the technical teachers professional knowledge

5. Discussion

Based on the analysis done, there are two elements that shows highest of professional knowledge used by Malaysian technical teachers in Vocational College respectively. Meanwhile, there are some of the elements that have similar score used by the teachers and also can see the lowest elements that implement by the teachers as shown on Figure 1. Putting aside the different approaches, professional knowledge itself is an important factor in determining gains in student achievement. In fact, the main motive for investigating teacher knowledge is to improve student outcomes.

The 'key findings' contributing to the issues of Malaysian TVET teachers are using the appropriate technology according to the topic being taught which involves of ICT knowledge or machinery skills. In line with the criteria mentioned in the RMK-10 technical teachers who has knowledge about technology and industry development will provide the most relevant training and further enhance the skills of graduates and thus students will be exposed with knowledge, technical skills and skills related to market needs workers and industries. Besides, education and technology have always been strongly related. This is demonstrated by the many technologies, old and new, that are used in classrooms or workshop everyday by teachers and students alike. Other than that, knowledge in ICT is important for the technical teachers. Using the ICT helps teaching and learning progress smoothly, creates interesting teaching environments, helps the teachers to prepare the teaching materials and allows teachers to explore new knowledge. One issue related to ICT is that the teachers in Vocational College skills institution can have their knowledge enhanced by providing ICT facilities such as adequate computer and unlimited technology access (Wahab et al. 2009).

Technical teachers in Malaysia shows the perspective of the professional knowledge used commonly are teaching orientation according to industry needs and using the appropriate technology according to the topic being taught. Appropriate technology in an educational setting should therefore be assessed for its potential to meet educational aims (Sulaiman et al.,2014). The full potential of technology used is only realized when it supports creativity and critical thinking.

On the other hand, the technical teachers in Malaysia have some similar elements in implementing the professional knowledge to determine the professionalism of technical teachers. The elements such as teaching technics according to student's ability and specification of students according to industry requirements, Malaysian Education Blueprint 2013-2025 (PPPM), Innovation in teaching and learning and Adapting the teaching style to different student backgrounds shows that professional development is an important mechanism that enhances teachers' knowledge in depth about the education policy and the all the subjects taught and seeks to strengthen their teaching practices . All of this element are considering important to every teacher because it develops a particular way of going about the complex task of teaching and make sure their teaching in learning process can balanced of the information given and the ability of the students (Phin 2014). The teaching profession can continually develop deep knowledge of learning, how the brain works, relationship between them and build the student interest and as well as improving the quality of teachers as authoritative educators

The least elements used in this professional knowledge by vocational technical teachers is various teaching techniques. Even though the use of various teaching methods is good during the teaching and learning process, it should be appropriate and depends to the time, situation and the place because this diversity can make the student become mixed up and confuse when receiving information from the teacher because of knowledge and understanding of pupils as individuals requires teachers to communicate effectively, to inspire students and to have empathy and patience (Desimone, Smith & Ueno, 2016). Therefore, the professional knowledge should be supported through an entitlement to early and continuing professional knowledge teaching skills and it can be reflected in their national professional standards.

6. Conclusion

The development of professionalism should be a priority in each teacher's career planning. Teachers are amongst the key guardians of education. It is vital that teachers' voices are the driving force for educational improvement and development, particularly at a time when the education system faces so many challenges and conflicting pressures. Challenges faced by current and future teachers are increasing. The issues faced are not merely a problem of students and equipment but furthermore include challenges to the scientific ability of teachers to deal with knowledge-based society as well as their identity in facing more global value issues. The teaching profession is always challenged with various educational issues.

By investigating the elements of knowledge underlying the effective teaching and learning, this study also gives ideas how to improve teacher quality. Teacher quality itself is an important factor in determining gains in student achievement. In fact, by having a teacher with knowledge, it can improve student outcomes because teachers can be expected to process and evaluate new knowledge relevant for their core professional practice and to regularly update their knowledge base to improve their practice and to meet new teaching demands. On the other hand, to improve teacher quality, it is crucial to understand what teacher professionalism involves.

Based on literature review from various research sources conducted, it can be seen that the issues related to this teacher's professionalism and professional knowledge should be emphasized. If this issue is not addressed, it is necessary to examine more profoundly, issues related to the technical professionalism of these teachers to and ultimately bring about the effects of the national education system. Therefore, we need to put a priority in the development of self-professionalism to carry out responsibilities as educators more effectively

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