The Readiness of Technical Lecturer of Vocational College on Practical Teaching

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***Abstract*— Readiness is one of the important elements that ensures a lecturer's preparation before beginning the teaching process. During practical teaching, the lecturer should cover all aspects of knowledge, skills and attitudes in the teaching and learning process. The purpose of this study was to identify the level of readiness of technical lecturers in terms of knowledge, skills and attitudes in practical teaching at vocational colleges. This study is a descriptive survey study using a Likert Scale questionnaire as an instrument. Population of the study were lecturers from six vocational colleges located in the state of Johor. A total of 127 respondents were selected as the sample. The data obtained were analysed using SPSS software version 21.0. The analysis shows that the lecturers' level of readiness in terms of knowledge, skills and attitudes were at high level. In conclusion, the study clearly shows that the vocational college lecturers were ready to implement effective practical teaching.**

***Keywords*— readiness, vocational college lecturers, practical teaching**

I. INTRODUCTION

Readiness is a term that indicates the willingness and readiness to perform a work process where work is intended as a process for integrating the physical, mental and emotional aspects of a person into action (Fourth Edition Council Dictionary, 2010). The practical methods used in the teaching and learning process are significant in helping the lecturer to explain the work process so that students can understand the work instructions and procedures correctly (Charles, 2002).

Lecturers play an important role in producing a generation that is competitive, creative and innovative. Lecturers are also the biggest contributors to producing a generation capable of making decisions in determining their future direction (Mohammed, 2005). In addition, lecturers also need to be rational in making decisions in educating students using the right methods and guiding them especially in terms of discipline (Sulaiman, 2003). Lecturers should also contribute thoughtful ideas in teaching and learning process so that students are more open-minded in accepting new ideas. The leadership of a lecturer in education has to be monitored in order for the teaching and learning process to work effectively (Rajawali, 2010).

Besides, lecturers also need to be aware of their influence in the development of excellent human capital besides being an integral part of the national education system. As the immediate party who ought to implement the policies set by the government particularly by the Ministry of Education (MOE) Malaysia (Neil, 2002), lecturers need to take part in educational programmes to enhance their existing knowledge to improve their skills. If educators are not exposed to suitable knowledge and skills, the probability to produce skilful students might be affected (Lord, 2006).

In practical teaching, the teaching and learning process conducted by the lecturers must include all the knowledge, skills and experience so that the process works successfully (Bakar, 2009). The lecturer's experiences also influence their personality as some of them come from different teaching background; daily schools or vocational colleges (Zawawi, 2011).

In this regard, in line with the aspiration of the Director of Technical and Vocational Education (PTV), Ministry of Education, who takes the students in this field seriously, PTV can be a starting point for the development of human capital interested in technical and vocational contexts (Ahmad Tajuddin, 2012).

II. BACKGROUND PROBLEM

Based on the discussion from the background of the problem, the researchers found that the lecturers in the technical field lack of knowledge, skills and experience in the teaching process in the workshop (Kasim & Yusof, 2004). In addition, the ignorance attitude of the lecturers while teaching makes it more difficult for students to understand the concepts taught (Md Zin, 2006). This has caused the practical process to fail because of the lack of knowledge of the lecturers in explaining the concept well.

Besides that, the lecturers' poor explanations cause students to misunderstand the concept. Their descriptions on the theory alone cannot give a clear picture to the students to comprehend the concept (Mohd Ngali, 2009). There are also lecturers who are inexperienced in practical teaching that cause them fail to convey the knowledge confidently (Ahmad Faizal, 2010). Due to that, the frequency of students making mistakes is also high and this is consequently putting their academic performance at risk. Practical teaching is essential as the lecturers have to expose not only theoretical explanations but also the practical processes (Wearmount, 2005).

Furthermore, lecturers also need to have good technical knowledge and skills so that they can explain well in practical teaching workshops (Sulaiman, 2003). According to

Hishammuddin, (2006), lecturers who are incompetent in teaching practical skills and have less skills in handling equipment need to be trained from time to time so that their existing skills are advanced to enable students to focus more on practical teaching sessions in the workshop. According to Mohammad (2002), the level of knowledge and skills of the lecturers were still at low levels in the teaching and learning. There are also lecturers who were not open towards accepting changes in the education system where they do not show their credibility to face the challenges ahead.

Therefore, a study was conducted to identify the level of vocational college lecturers' readiness for practical teaching. The objectives of this study are to:

- Identify the level of readiness of technical lecturers in terms of knowledge in practical teaching at Vocational College.
- Identify the level of readiness of technical lecturers in terms of skills in practical teaching at Vocational College.
- Identify the level of readiness of technical lecturers in terms of attitude in practical teaching at Vocational College.

III. METHODOLOGY

This study adopted a survey study, particularly using quantitative methods. It was conducted in a survey to identify the level of readiness of technical lecturers in teaching practical aspects of knowledge, skills and attitudes at vocational colleges in Johor. The purpose of this survey is to find out the answers to each research question prepared. This quantitative method is used by researchers to obtain information and is presented in a statistical form (Idris, 2010).

A. Population and Sample

The target population for this study is the lecturers who taught in vocational colleges in Johor. The total population of lecturers teaching at vocational colleges in Johor was 190. By referring to Krejcie & Morgan Sample Size Determination Table (1970), the sample involved in this study had been decided to be 127 people.

Table 1 - List of selected vocational colleges that focus on technology courses.

Vocational Colleges	Population
Kolej Vokasional Batu Pahat	44
Kolej Vokasional Kluang	28
Kolej Vokasional Segamat	32
Kolej Vokasional Tanjung Puteri	29
Kolej Vokasional Muar	27
Kolej Vokasional Kota Tinggi	30
Total	190

B. Research Instrument

The research instrument used in this study was questionnaire. The researchers used the questionnaire instrument as this method is the most suitable and easy to carry out for the study. In addition, this method is also the easiest to obtain research information (Chua, 2006). In this study, the researchers used a 5 point Likert Scale in the questionnaire.

Table 2 - Likert Scale

Variable	Score
Strongly agree	5
Agree	4
Disagree	3
Do not agree	2
Strongly disagree	1

The questionnaire used in this study was divided into several sections. The main sections of this questionnaire are section A, B, C and D:

Table 3 - Items in the questionnaire form

Section	Items
A	Demographic of respondents
B	The level of readiness of the lecturers in terms of knowledge
C	The level of readiness of the lecturers in terms of skills
D	The level of readiness of the lecturers in terms of attitude

C. Data Analysis Method

A good data collection method ensures the research process to be carried out as smooth as possible. Questionnaires were distributed and collected within two weeks. The raw data obtained from the respondents were processed using SPSS software.

IV. FINDINGS AND DISCUSSION

This part describes the results of the study analysed using SPSS software. The results of the study are from the responses from the questionnaires as described in the previous part. The quantitative data obtained were analysed using descriptive statistics in terms of mean scores and percentages. The findings of the study are to answer the research questions – the level of readiness of technical lecturers in terms of knowledge, skills and attitude of technical lecturers in practical teaching at vocational college.

A. The Level of Readiness of Technical Lecturers in terms of Knowledge in Practical Teaching

The analysis in this section is to answer the first research question: What is the level of readiness of technical lecturers in the knowledge aspects of practical teaching at vocational colleges? Based on Table 4, there are 13 items related to the

readiness of technical lecturers in terms of knowledge in practical teaching at vocational colleges. The result of the analysis of question 1 found out that all the lecturers had a high level of readiness in terms of knowledge. Lecturers had the knowledge of the theories to be taught in the field which produces the highest mean score of 4.52. Lecturers were also claimed to be knowledgeable in terms of safety in case of accidents in the workshop as this statement got the second highest score of 4.48. However, the use of machine without reference to the manual among the lecturers statement had the lowest mean score of 3.86.

The analysis of the study shows that the level of readiness of lecturers in terms of knowledge of the theories to be taught in practical teaching at vocational colleges was high. This is because lecturers need to have an in-depth knowledge of the areas involved in making learning more accessible (Othman, 2006). Besides, lecturers with more teaching experience can perform in teaching and learning process better. Abdul Wahab (2006) asserts that the experience of a lecturer is very important in conducting teaching and learning in classes and workshops. Lecturer's knowledge in one area has a positive impact on students' achievement (Abdul Rahim, 2001). Lack of sufficient knowledge will affect the level of readiness of the lecturers to implement an innovation. Mohammed Basri (2008) supports the assertion that lecturers must be knowledgeable in order to accept changes in education, teaching methods, up-to-date training skills as well as latest knowledge in the field.

Safety is an important aspect of the work-related sectors of human labor (Abd. Rashid, 2001). The analysis of the study shows that most of the lecturers had knowledge of safety in case of an accident in the workshop. Knowledge of safety aspects is essential in lecturer training to prevent accidents or injuries while conducting practical lessons in workshops. Zulpakar (2008) supports the assertion that experienced lecturers will be more sensitive when it comes to safety while conducting practical work in workshops. If an accident happens, the lecturer should know the right way to handle the problem. Lecturers need to be aware of the students' safety in the workshop so that students will be more careful when carrying out practical work. Safety is not confined to students only, but it also involves the tools, machines, equipment, environment and management in conducting practical lessons in workshops (Jamaludin, 2001). Accidents often occur due to human negligence, lack of knowledge of the work done, as well as failure of equipment or machinery used (Mustapha, 2000).

An exceptional lecturer is one who is knowledgeable and can develop his/her own expertise to enhance the effectiveness of practical teaching in the workshop. From the results, it can be seen that there were some of the lecturers who need to refer to the workshop manuals when using the machine. This could happen when the lecturers have less knowledge about the technology of the machine used in the workshops that are constantly upgraded. In line with the current explosion of technology, the knowledge and skills of a lecturer are crucial for the excellence of their teaching (Adzman 2006). Lecturers need to improve their knowledge and competencies in their respective fields to enable them using the machines appropriately (Mohammed Sani, 2005). If the lecturer is not able to deliver the lesson well, including having insufficient knowledge on the tools used, it will also have a negative impact on the students (Safhibul Rabbi, 2004).

Table 4 - Distribution of mean score and standard deviation for knowledge aspect

Bil	Item	Mean Score	Standard Deviation	Level
1	Have knowledge of the theories to be taught in the field.	4.52	0.589	High
2	Always attend courses in the field of study.	4.43	0.585	High
3	Made many references to the book on the field involved in expanding knowledge in practical teaching.	4.19	0.500	High
4	Made many references from the internet to the field involved in expanding knowledge in practical teaching.	4.43	0.585	High
5	Can identify the usefulness of each equipment in the workshop.	4.28	0.548	High
6	Can identify the usefulness of each machine in the workshop.	4.24	0.530	High
7	Produce vocational college students who can meet occupational standards in terms of knowledge of technical field.	4.14	0.639	High
8	Always provide the latest information on equipment during practical teaching sessions.	4.09	0.684	High
9	Always provide the most up-to-date information about machines during practical teaching sessions.	4.01	0.761	High
10	Can use machine without reference to usage manual.	3.86	0.833	High
11	Be up-to-date with the industry's latest technological advancements to improve knowledge.	4.01	0.877	High
12	Have knowledge of safety in case of accidents in the workshop.	4.48	0.502	High
13	Have knowledge of every aspect of safety in the workshop.	4.39	0.489	High
	SUM OF AVERAGE MIN	4.24	0.625	High

B. The Level of Readiness of Technical Lecturers in terms of Skills in Practical Teaching

The analysis in this section is to answer the question of the second objective: What is the level of readiness of technical lecturers in terms of skills in practical teaching in vocational colleges? Based on Table 5, there are 11 items related to the

level of readiness of technical lecturers in terms of skills in practical teaching. The results of the analysis of question 2 found that all the lecturers had a high level of readiness in terms of skills. Among the mean scores was 4.52, that is the statement on the ability of the lecturer to detect the error in the way the student handle the equipment while performing practical work. Besides, the lecturers also were able to detect the error in the way the machine was operated by the student during practical work with a mean score of 4.39. However, the statement on the ability of the lecturers to detect damage to the machine in the workshop quickly got the lowest mean score of 4.01.

Based on the analysis, most lecturers were able to detect the mistakes done by students when they handle the tools or equipment in the workshop. An effective lecturer is the one who can master all the skills, knowledge and expert in enhancing the effectiveness of practical teaching in the workshop (Safhibul Rabbi, 2004). This is because lecturers with higher Malaysian Certificate of Excellence (Sijil Kemahiran Malaysia, SKM) levels will influence the teaching and learning process as they are more proficient and knowledgeable in the field. Mohd Talib (2003) asserts that the lecturers with high levels of SKM master the practical skills well and the teaching and learning process will achieve its objectives more easily. Lecturers also need to have skills in the use and maintenance of equipment in the workshops in practical teaching to ease their teaching and learning processes.

In addition to detecting errors while students are using the equipment, the lecturers were also able to detect errors in the way machines were operated by students during the workshop. Lecturers are educators who need to have high levels of competency in knowledge and skills to assist in the teaching and learning during practical teaching (Ahmad Faizal, 2010). The use of equipment and machines requires skill before they can be used effectively (Saaid, 2006). Lecturers who have experience in the use of machinery and equipment will be more skilled in detecting error handled by students at workshops (Mohamad, 2000). The mastery of skills is very important in improving the quality of a lecturer especially in the technical field. For a lecturer, knowledge and expertise in handling equipment and machines are essential for the lecturer to deliver effective teaching in the workshop. Without technical skills, the lecturer will not be able to carry out good planning, effective techniques and even the right instructions for the students (Makhbul, 2003).

There are still a few lecturers who were unable to detect the damage of the machine in the workshop quickly. This could be due to their incompetence in machinery maintenance. Hanum (2008) asserts that it is the responsibility of the lecturers to master practical skills to further enhance the teaching and learning process in the workshop. This is because there are still lecturers who still had not have SKM qualification while teaching. The skills and competencies of a lecturer in a field can be measured, evaluated, presented and addressed while the lecturer is conducting the teaching and learning process in the workshop (Ariffin, 2006). In contrast to lecturers who possess low level of readiness which can lead to problems that make the teaching and learning objectives difficult to be achieved (Ee, 2005), lecturers with expertise in the field of study will provide a more effective environment for the students throughout the process.

Lecturers need to be prepared with sufficient skills before teaching in their respective fields to ensure that the teaching process runs smoothly in the workshop. Poor knowledge and skills in machinery will result in less effective and systematic teaching and learning process (Minhat, 2012). According to Abdullah (2005), based on his experience as a lecturer, he found that students prefer the type of lecturer that is always ready to answer every question from the students.

Table 5 - Distribution of mean score and standard deviation for skill aspect

Bill	Item	Mean Score	Standard Deviation	Level
1	Ready to get SKM to a higher level.	4.33	0.564	High
2	Able to detect the damage of equipment at the workshop.	4.34	0.567	High
3	Able to detect the damage of the machine at the workshop.	4.01	0.696	High
4	Provide a clear description of work steps while performing practical work.	4.33	0.472	High
5	Produce vocational college students who can meet the standard of work in technical skills.	4.24	0.614	High
6	Capable of detecting the error in the way the student operates the equipment while performing the practical work.	4.52	0.589	High
7	Capable of detecting the error in the way the machine operated by the student during the practical operation.	4.39	0.489	High
8	Have the skills to use the machine efficiently in the workshop.	4.24	0.684	High
9	Have the skills to use the equipment properly in the workshop.	4.20	0.797	High
10	Have skills in safety in case of accidents in the workshop.	4.09	0.750	High
11	Improve existing skills in line with technological developments.	4.34	0.567	High
	SUM OF AVERAGE MIN	4.28	0.617	High

C. The Level of Readiness of Technical Lecturers in terms of Attitude in Practical Teaching

The analysis in this section is to answer the third research question: What is the level of readiness of technical lecturers in terms of attitude in practical teaching in vocational colleges? Based on Table 6, there are 11 items related to the level of readiness of technical lecturers in terms of attitude in practical teaching. The results of the analysis of question 2 found that all the lecturers had a high level of readiness in terms of attitude. It is found that the highest mean score of

4.47 is that the lecturers tried to improve their professionalism as educators. The second highest mean score is 4.39 which is on the acceptance of the lecturers of ideas of carrying out assigned responsibilities and are always enthusiastic when conducting practical lessons in the workshop. However, lecturers seeking formal training to improve their skills got the lowest mean score that is 3.96.

Based on the research analysis, the findings show that the lecturers were constantly striving to improve their professionalism as educators. Effective lecturers are those who are always ready to teach every day and do not take long time or waste the time to impart the knowledge (Abdullah, 2005). Lecturers who are interested in the field will be more involved in promoting professionalism than those who are teaching not in the field of interest. Che Hamat (2011) asserts that lecturers who are passionate about an area of interest will always want to enhance their professionalism as an educator.

Moreover, lecturers can also come up with ideas in carrying out their assigned responsibilities and always be enthusiastic about conducting practical lessons in the workshop. This statement is supported by Thorndike's theory (1913) that affective readiness refers to the attitude, desire, passion, perseverance, feelings and interests of a lecturer in performing an activity. Lecturers not only need knowledge and skills in their teaching but they also need to have an admirable trait that can be exemplified by students by receiving input from other lecturers to improve their achievement (Muin, 2006). This is because the longer teaching experience a lecturer has, the more positive he or she will respond to any given problem as he or she needs to resolve it well by accepting others' opinions. This is because lecturers in vocational colleges have always been recorded as having open attitude of accepting changes and views throughout their career teaching at vocational colleges (Abdul Razak, 2006).

Nevertheless, there are still some lecturers who were not seeking for formal training to improve their existing skills. One of the attempts that they can do to acquire more knowledge is to study informally. In order to fulfil their role as a lecturer, they need to undergo specific training to improve their skills and knowledge in a particular profession (Neil, 2002). Existing lecturers in vocational colleges need to be exposed to informal training programmes organised by other parties to help increase their knowledge and skills in the technical field. Lecturers with high levels of SKM on the other hand might not seek formal training because they are confident that they have sufficient knowledge as an educator (Pudji, 2008).

A great lecturer is a lecturer who has positive attitude towards teaching and is confident in his teaching (Lord, 2006). On the contrary, lecturers who lack knowledge and skills will be more negative and lack self-confidence while teaching. The best of lecturers are those who are highly knowledgeable, skilful and positive in their role as educators (Abdul Wahab, 2006).

Table 6 - Distribution of mean score and standard deviation for attitude aspect

Bill	Item	Mean Score	Standard Deviation	Level
1	Seek formal training to improve the skills in practice.	4.28	0.452	High
2	Try to get some informal training to improve skills.	3.96	0.791	High
3	Accept the changes that are taking place in the education system.	4.06	0.790	High
4	Receive a change in work time.	4.01	0.821	High
5	Strive to produce vocational college students who can meet occupational standards.	4.09	0.750	High
6	Ensure that the assigned tasks are well and quality.	4.38	0.576	High
7	Accept opinions in carrying out their assigned responsibilities.	4.39	0.578	High
8	Accept instructions from the top.	4.13	0.839	High
9	Enhance professionalism as educators.	4.47	0.501	High
10	Always excited when conducting practical lessons in workshops.	4.39	0.578	High
11	Has the initiative to enhance professionalism in the field.	4.38	0.487	High
	SUM OF AVERAGE MIN	4.23	0.651	High

IV. CONCLUSION

The results of the analysis show that the aspects of knowledge, skills and attitudes that have been studied affect the vocational college lecturers' readiness to conduct their teaching and learning in the workshop. The focus of this study is on the level of readiness of technical lecturers in terms of knowledge, skills and attitudes in practical teaching at vocational colleges. However, there were still some shortcomings in the knowledge, skills and attitudes that need to be improved to ensure that lecturers are better prepared to teach so that the learners produced are of good-quality and competitive.

Based on the findings of the study, the researchers found that the aspects of knowledge, skills and attitudes are important for the technical lecturers of vocational college in practical teaching to make the students understand well. The data analysed show that the vocational college lecturers were prepared in terms of knowledge, skills and attitudes. They were also constantly working to enhance their knowledge, skills and attitudes as educators to improve their level of technical readiness, parallel to the changes in vocational colleges. By having these aspects, they will be more confident in teaching and delivering theories in their respective fields.

Based on the results of this study, the researchers will be able to determine that the level of readiness of vocational college lecturers in terms of knowledge, skills and attitudes was high and well accepted. The vocational college lecturers also possessed good attitude toward the role of educators. Lecturers were also found to be ready to enhance their

knowledge and skills in the field. They were also recorded as dedicated to join the training provided to improve their knowledge and skills over time. Lecturers in the vocational colleges also show positive attitude towards enhancing professionalism as educators to uphold the good name of educators. Finally, the researchers conclude that the level of lecturer readiness needs to be improved from time to time in terms of technical knowledge, skills and attitudes in order to equip them for the benefit of their teaching and learning process as well as for the students.

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