



Implementation of Vocational College Lecturers Teaching Practice in Construction Technology Program

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Abstract: The research was conducted to identify practical teaching practices among lecturers of Construction Technology in Vocational College Malaysia. This research uses quantitative methods (questionnaires) and is supported by interview methods and observations for data collection and subsequently determines the answers to the identified research problems. There are three teaching practice components, namely pre-teaching practice, practice during teaching, and post-practice practice. The elements contained in the pre-teaching component of the lesson are the preparation of lesson plans, the provision of teaching aids and the preparation of lesson content. The current practice element of teaching is the teaching method and the element of post-practice practice is training and evaluation. The respondents involved were 46 Construction Technology lecturers at six Vocational College. The data obtained through pilot studies have been tested and demonstrated the reliability of Alpha Cronbach which is 0.819 high. An overview of the differences in pre-teaching practice, during teaching and post-lessons according to the experience and expertise category uses the T test with a significant level of 0.05. In overall, the findings show that all three components of pre-teaching practice, during teaching and post-teaching are at a high level. The findings also showed that there were no significant differences in pre-teaching practices, teaching and post-lectures based on the experience and expertise categories of lecturers.

Keywords: Practical teaching practice, construction technology subject, college vocational

1. Introduction

The vocational education system in Malaysia has begun to pay special attention when vocational education, formerly considered second-class education, has undergone a transformation of vocational education. The transformation was introduced by deputy prime minister Tan Sri Muhyiddin Yassin in 2012. According to him, the reform of the vocational course was to ensure that there was no more stigma in the field, as it had previously seen students being channeled into the field if they did not excel in academic.

Practical teaching is closely related to the vocational field. In practical teaching, students are given the opportunity to apply the theory learned and develop relevant practical skills (Norhasliza, 2012). Prior to the teacher's presentation the student will then present the demonstration, during the demonstration the students will ask questions and the student will practice on his own with the monitoring of the teacher. Harlen, (2000); Marzano, (1992); Tamir, (1977) and Nurzatulshima (2014) states that practicality is a complex method that involves three teaching techniques namely explanation, practical work, and discussion. Practicality is a very important teaching method in vocational teaching that

involves hands-on training to teach vocational students to become skilled workers in line with the field of construction technology that prioritizes the skills of the workers themselves.

Effective teaching practices are influenced by four factors that is the quality of teaching, the appropriateness of the teaching level, the incentives and the time. These four factors include planning, implementing and evaluating a teaching, (Slavin 1994). From this point of view, it can be concluded that every teacher needs to implement a practice appropriate to their teaching process to ensure the quality of teaching they want to convey to students in the pre, current and post-teaching aspects. In addition, effective teaching practices should also be incorporated into practical teaching to produce students who are skilled and competent in technical and vocational areas in line with the vision of the Technical and Vocational Education Division (BPTV) to be the leading technical and vocational education leader to meet the country's current needs.

2. Research Objective

- i. Identify pre-teaching practices among lecturers of Construction Technology in Vocational College.
- ii. Identify current practice in teaching among lecturer of Construction Technology in Vocational College.
- iii. Identify post-teaching practices among Lecturer of Construction Technology in Vocational College.
- iv. Identify differences in practical teaching practices among lecturers of Construction Technology according to the teaching experience.
- v. Identify the differences in practical teaching practices of lectures in Construction technology according to lecturer's expertise.

2.1 Research Questions

- i. What are the elements of lesson preparation during pre-teaching among lecturer of Construction Technology Vocational College?
- ii. What are the elements of preparation for teaching materials during pre-teaching among lecturer of Construction Technology in Vocational College?
- iii. What are the elements of preparatory coursework during pre-teaching among lecturer of Construction Technology in Vocational College?
- iv. What is the current method of teaching practical skills among lecturer of Construction Technology in Vocational College?
- v. What is the Construction Technology's lecturer in Vocational College practise for evaluation during post-graduate teaching?
- vi. What is the Construction Technology's lecturer in Vocational College practise for training during post teaching?
- vii. Are there differences in pre-teaching, current teaching, and post-teaching practices among lecturers according to teaching experience?
- viii. Are there differences in pre-teaching, current teaching, and post-teaching practices among lecturers according to teaching expertise?

2.1 Reseach Hypothosis

Ho: There is no significant difference between the teaching practice of Construction Technology lecturers and teaching experience.

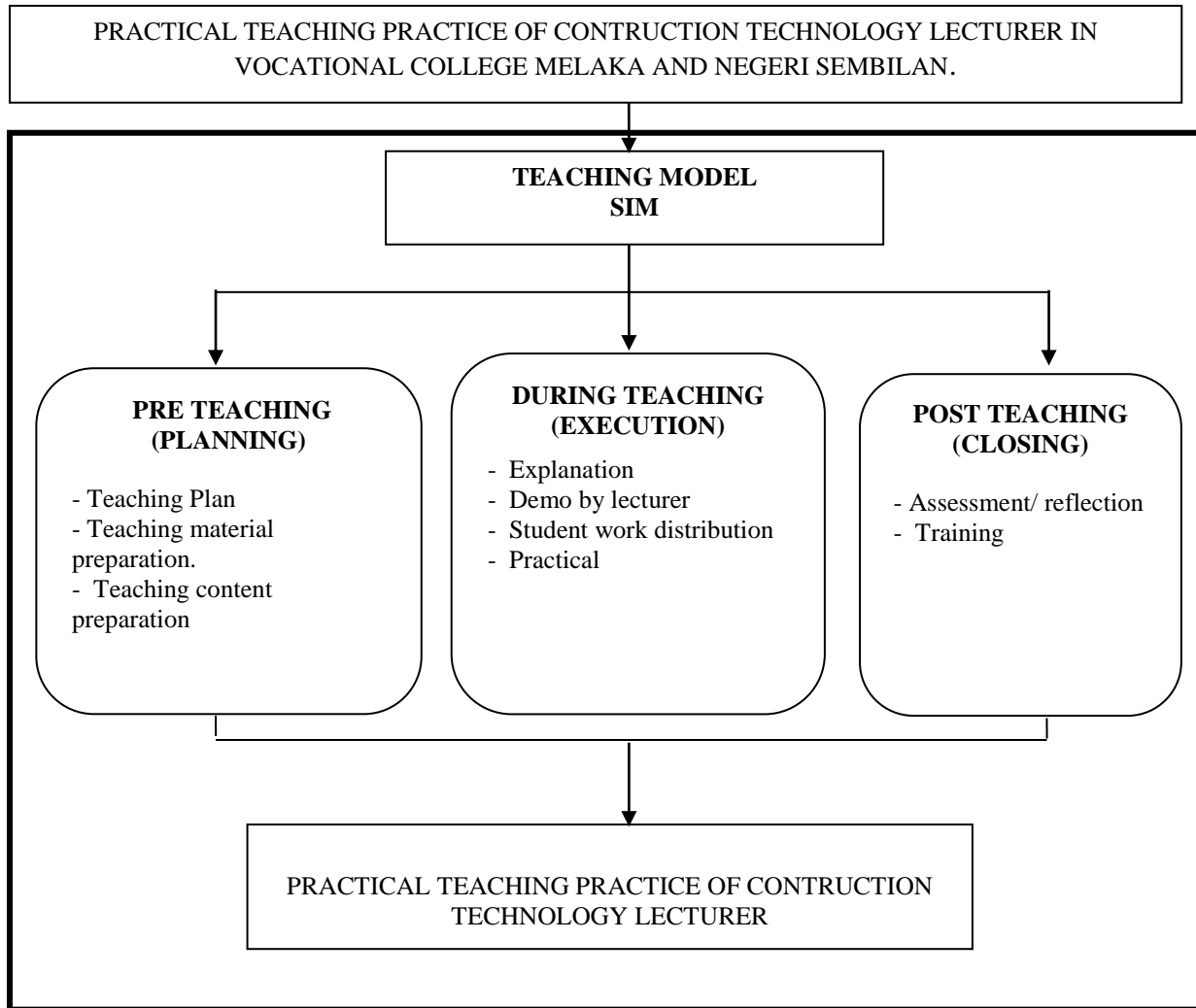
Ho: There is no significant difference between the teaching of Construction Technology lecturers and the level of a lecturer's expertise.

3. Literature Review

In this study, the researcher applied Sim teaching model as the conceptual framework of this study. In the Sim teaching model the five components are emphasized namely the teaching objectives, students, content teachers and environment (Asmah, 1989 in Atiqah, 2008). These five aspects can be classified into three main categories of teaching practice that are pre, current, post and interact with one another. The first part of the teaching activity is pre-teaching. At this point teachers need to make careful and comprehensive planning for teaching to avoid confusion in implementing teaching activities, in line with the opinion (Atan Long, 1998 in Baharin, 2010) that teachers will have clear goals and objectives if the preparation done accordingly. In this study, there are three things teachers need to do in their pre-teaching practices lesson plans, teaching aids (BBM), and teacher preparation for the content of the lesson.

Teaching practice is the second part of the teaching activity. An important factor in teaching practice is the teaching method adopted by teachers in terms of student acceptance, this is supported by John (2004) and Nabilah (2011) saying that teacher teaching techniques in the classroom will influence student achievement levels. Teachers need to select teaching techniques based on the teaching module, which is in line with Sim's teaching model where teachers need to identify the level of student acceptance and existing knowledge in the classroom to ensure that

students understand what the teacher is about to convey. Therefore, researchers are trying to identify the current practice of teaching practical skills for the subject of construction technology.



4. Research Methodology

This study is a descriptive study and uses quantitative methods as the main method, while interview and observation methods are the main contributors to this study. The study population consists of 46 Lecturer in Construction Technology who teaches at six Vocational Colleges in Malacca and Negeri Sembilan. The selected sampling method is Stratified Random Sampling. Every questionnaire has a number code slip. Researchers made copies of the slips representing each boring questionnaire. The slips are folded and included in 6 different containers representing the Vocational College set. Researchers removed six slides for each container where each element in the population was selected. Instrument validation was done by submitting the questionnaire to a University of Technology Malaysia (UTM) lecturer with a PhD in Philosophy and a language specialist to confirm the use of accurate and accurate language

The interview method was used to support the questionnaire method. Respondents are among the Construction Technology lecturers with expertise in Construction Technology. Lecturers with Certificate of Skills Malaysia (SKM) level 3 and SKM level 4 belong to a group of specialist teachers. In addition, researchers also use observation methods in getting information and sources of information. To obtain this information, the researchers looked at pre-teaching practices, current teaching practices and post-teaching practices conducted by Construction technology lecturers comprising expert teachers. Researchers will note everything that the lecturers do, it can be seen indirectly that the observation methods combined with the interviews and analysis documents are found to strengthen the data in the interviews.

The third part of the teaching activity is the post-lesson, after-teaching practice. In this section most teachers incorporate elements of reinforcement and assessment because they want to identify the level of student acceptance during the teaching activities. According to Abdul Rahim (2008), assessment serves as the decision maker in

determining the effectiveness of an educational activity that has been planned and implemented. According to Dewey (1933) in Hasniza (2006) it is stated that a teacher's right to write a reflection on the teaching process to improve his teaching performance can be improved in subsequent teaching activities and the student's performance in the subject of Construction Technology in particular can be improved.

5. Research Findings

The findings of the study are reported based on the following research questions:

a. What are the elements of lesson preparation during pre-teaching among lecturer of Construction Technology in Melaka and Negeri Sembilan Vocational College?

This study found that all 10 items presented in the questionnaire showed a high mean of 3.68 - 5.00. The questions that have the highest meanings are B8 and B4, which is to write a lesson plan with the aim so that students can prepare reinforcement for the footing and write a lesson plan for teaching practical preparation of reinforcement iron according to the Training Session Plan (RSL), both questions are 4.57. The results also found that the overall mean value was 4.29. This mean value of study 1 question, which is the element of preparation of teaching plans during pre-teaching among lecturers of Construction Technology in Vocational College of Malacca and Negeri Sembilan, is at a high mean score of 3.68 - 5.00.

Table 1 - Mean of teaching plan preparation (pre-lesson) elements

No.	Question Items	Standard Deviation	Percentage (%)	Mean
B1	I wrote a lesson plan for teaching slump test according to the hours of teaching.	0.58	87.80	4.39
B2	I wrote a lesson plan for teaching a slump test according to the number of students in the class.	0.70	86.60	4.33
B3	I wrote a lesson plan for teaching practical preparation of reinforced iron according to the Competency Standard Stand Assessment Document (DPSK).	0.79	80.81	4.04
B4	I wrote a lesson plan for teaching practical preparation of reinforced iron according to the Training Session Plan (RSL).	0.50	91.40	4.57
B5	I wrote a lesson plan for teaching practical preparation of the formwork box referring to the previous heading.	0.79	79.20	3.93
B6	I wrote a lesson plan with the objective of students able to identify the size of the reinforcement.	0.57	87.00	4.35
B7	I wrote the lesson plan with the objective of students able to tie the knot according to the procedure.	0.57	78.60	3.96
B8	I wrote a lesson plan with the objective of student able make footing preparation.	0.58	91.40	4.57
B9	I write the lesson plan with the objective of student acceptance level.	0.74	84.80	4.24
B10	I always write daily lesson plans.	0.55	90.00	4.50
Average Mean				4.29

b. What are the elements of preparation for teaching materials during pre-teaching among the lecturer of Construction Technology at Vocational College of Melaka and Negeri Sembilan?

Research questions on the preparation elements of practical teaching materials found that all 10 items had a mean height of 3.68 - 5.00. Question B11, I prepared a practical work instruction sheet for each group of students for which the reinforcement of iron reinforcement had the highest mean of 5.00. The results also found that the overall mean value was 4.37. These mean values show that study 2, the element of preparation of practical teaching materials during pre-teaching among Vocational College Construction Technology lecturers in Malacca and Negeri Sembilan, is at a high mean score of 3.68 - 5.00.

Table 2 - Mean of Teaching teaching materials Preparation Elements.

No.	Question Items	Standard Deviation	Percentage (%)	Mean
B11	I prepared a handout for each student group for preparing reinforced steel.	0.00	100	5.00
B12	I planed using BBM during practical preparation of footing.	0.15	80.40	4.02
B13	I provide the quantity of concrete mixing material according to the time I teach the slump test.	0.74	87.00	4.35
B14	I provide the quantity of concrete mixing material according to the number of students for the slump test.	0.73	84.40	4.22
B15	I provide the actual concrete material for the slump test.	0.60	95.20	4.76
B16	I provided a chart of the footing preparation process.	0.58	88.20	4.41
B17	I provided a laptop during teaching of footing preparation.	0.70	86.60	4.33
B18	I provided a LCD projector during teaching of footing preparation.	0.79	80.80	4.04
B19	I choose BBM carefully in the process of teaching Construction technology.	0.50	91.40	4.57
B20	I constanly improve BBM preparations skills by using internet.	0.79	79.20	3.96
Average Mean				4.37

c. What are the preparation elements of pre-teaching lessons among lecturer of Construction Technology at Vocational College of Melaka and Negeri Sembilan?

The research questions on the preparation elements of the practical lesson found that all 9 items also had a mean of 3.68 - 5.00. Question B26, I refer to other lecturers if I do not understand the practice of installing reinforcements with the highest mean of 5.00. The overall mean value for study question 3 was 4.35. This mean value shows that the element of preparation of practical content during pre-teaching among the lecturer of Conruction Technology in Vocational College of Malacca and Negeri Sembilan is at a high mean value range of 3.68 - 5.00

Table 3 - Mean of preparation elements of pre-teaching lessons.

No.	Question Items	Standard Deviation	Percentage (%)	Mean
21	I refer to DPSK for preparing practical teaching content of footing preparation.	0.57	7.00	3.35
22	I used MPV textbooks for grades 4 and 5 to find information on the practice of iron reinforcement preparation.	0.57	8.60	3.93
23	I use reference books in addition to MPV textbooks to find information on concrete mixing practices.	0.58	1.40	3.57
24	I'm looking for additional information on footing practices via internet.	0.74	4.8	3.24
25	I visited the site to find out more about the formwork box.	0.55	0.00	3.50
26	I refer to other lecturers if I do not understand the practice of installing reinforcements.	0.00	00.00	5.00

27	I discussed with other lecturers before starting the footing preparation.	15	0.40	8	.02
28	I attended a course organized by BPTV to learn more about formwork.	74	7.00	8	.35
29	I attended courses other than those organized by BPTV to gain additional knowledge on formwork.	73	4.40	8	.22
Average Mean					.35

d. What is the current method of practical teaching among lecturers of Construction Technology at Vocational College of Melaka and Negeri Sembilan?

Based on table 4, the research questions related to elementary teaching method found that all 11 items had a high mean of 3.68 - 5.00. The item with the highest mean of the question was Question B30, I explained on the board how to calculate the size of the reinforcement with a mean of 4.76. The results also found that the overall mean value was 4.35. These mean values show that the study question 4, which is the element of teaching method during teaching among lecturers of Construction Technology in Malacca and Negeri Sembilan, is at a high mean score of 3.68 - 5.00.

Table 4 - Practical teaching methods (during teaching)

No.	Question Items	Standard Deviation	Percentage (%)	Mean
B30	I explain on the board how to calculate the size of the reinforcement.	0.60	95.20	4.76
B31	I showed students how to use a concrete vibrator.	0.58	88.60	4.43
B32	I question the students' existing knowledge of concrete mixing ratios.	0.71	87.00	4.35
B33	I circulated the distribution notes when I explained the slump test.	0.80	81.40	4.07
B34	I handle the practice of preparing the formwork with other lecturers.	0.50	91.80	4.59
B35	I distribute students to small groups while teaching concrete preparation skills.	0.80	79.60	3.98
B36	I assist students in the practical work of preparing a formwork box.	0.566	87.00	4.35
B37	I monitor student learning throughout the entire practical lesson.	0.57	78.60	3.93
B38	I regularly work with and discuss with fellow lecturers throughout the work of preparing footings.	0.54	92.20	4.61
B39	I always talk to students throughout the practice of preparing footings.	0.74	85.20	4.26
B40	I prepared a summary on the practice of footing preparations.	0.55	90.40	4.52
Overall Mean				4.35

The findings of this study are also supported by the findings from which expert lecturers were asked questions that most of the teaching activities for the Construction Technology course require each student to engage in practical work. But the large number of students makes it difficult for lecturers to do homework. So what is the teaching method used to get all students involved in practical work. The following is the statement made by the respondents in the interview.

'..... The methods I use are often variable and not just one method, they all have to adapt to the situation, the number of students and what to teach. For example for a folding work module, I would divide students into small groups and publish a leader, provide briefing and paperwork to the leader. During the hands-on activities I will go to each group to make sure each student do the folding work properly and if there is something they do not understand I will explain to them directly during the hands-on activities. (Respondent)

e. What is the practice of Lecturer in Construction Technology at Vocational College of Malacca and Negeri Sembilan for training during post-graduate teaching?

Referring to table 5, the research questions on the elements of post-teaching practice found that all 10 items also had a mean of 3.68 - 5.00. The item with the highest mean score was question B41, I gave students a written training after the slump test at 5.00. The overall mean value for this study question 4 is 4.37. These mean values show that the elements of practice during post-teaching practice among Vocational College Construction Technology lecturers in Malacca and Negeri Sembilan are high in the mean score range of 3.68 - 5.00.

Table 5 - Mean of practical training (post teaching)

No.	Question Items	Standard Deviation	Percentage (%)	Mean
B41	I provide students with written training after the slump test.	0.00	100	5.00
B42	I provide quiz to the students after teaching practical preparation of the formwork box.	0.21	80.80	4.04
B43	I ask students to prepare a report on the individual practice of binding reinforcement.	0.74	87.00	4.35
B44	I ask students to prepare a work report on the group of footing preparation.	0.74	84.80	4.24
B45	I distribute to students the training on using concrete vibrator machine.	0.60	95.20	4.76
B46	I provide quizzes based on the practical subject matter taught.	0.61	87.80	4.39
B47	I provided a quiz in the form of a diagram.	0.70	86.60	4.33
B48	I provide quizzes based on students' knowledge level.	0.79	80.80	4.04
B49	I checked the footing process test and showed the correct way.	0.50	91.40	4.57
B50	I made a positive comment on the footing test.	0.79	79.20	3.96
Overall Mean				4.37

These findings are also supported by the findings of your opinion, after the hands-on teaching activities, what the practise for Contruction Technology lecturers in order for students to remember what they have learned. The following statements were made by the respondents in the interview session:

'..... Ok... actually through this internship is enough for students to remember the lessons they are learning because they are doing what themselves are learning. But as a reinforcement I will devote 15 minutes to give them a training or quiz once I'm done. This quiz is not just an assessment for them but a reinforcement so they do not forget what they learned that day. (Respondent)

f. What is the practice of Lecturers in Construction Technology at Vocational College of Malacca and Negeri Sembilan for assessment during post-graduate teaching?

Based on table 6 shows the mean score results for the research questions related to the element of practice evaluation during the post-lesson teaching that all 10 items had a mean mean of 3.68 - 5.00. In Questions B53 and B59, I made comparisons between individuals for reinforcement work and I made written comments during the appraisal of practical work, each with a mean of 4.59. The results of this study also found that the overall mean value was 4.30. The mean values indicate that the study question 6, the element of practice evaluation during post-teaching among the Vocational College Construction Technology lecturers in Malacca and Negeri Sembilan, was at the high mean score range of 3.68 - 5.00.

Table 6 - Mean of practical assessment (post teaching)

No.	Item Soalan	Sisihan piawai	Peratus (%)	Min
B51	I explained to the students about the preparation of the footings after the practical lessons were completed.	0.56	86.60	4.33
B52	I created a question-and-answer session on the name of the tool used during the formwork form preparation.	0.55	78.20	3.91

B53	I made comparisons between individuals for reinforcement work.	0.54	91.80	4.59
B54	I made a comparison between the groups for the footing.	0.74	84.80	4.24
B55	I comment in detail on student practical work.	0.55	90.00	4.50
B56	I give constructive criticism of the work done by the students.	0.58	88.20	4.41
B57	I point out mistakes and ways to make corrections.	0.71	87.00	4.35
B58	I rate each student's practical work.	0.80	81.40	4.07
B59	I made a written review during the performance evaluation.	0.50	91.80	4.59
B60	I summarize to the students after completing the footing.	0.80	79.60	3.98
Overall Mean				4.30

g. Are there differences in pre-teaching, current teaching, and post-teaching practices among lecturers by category of teaching experience?

Table 7 shows the results of the comparative study of pre-teaching, current and post-teaching lecture practice among respondents based on their years of teaching experience. The results of "t" test analysis showed that there were no significant differences between experienced and less experienced respondents. The 'p' values got from the test were 0.74 for the pre-teaching practice, 0.21 for the current teaching practice and 0.65 for the post-teaching practice compared to the significant level set at a value of less than 0.05 (5%)

Table 7 - Analysis Tests "t" comparing the teaching practices of pre-teaching, current, and post-teaching lecturers by category of teaching experience.

Practice	Lecturers experience	n	Mean	Standard Deviation, <i>sd</i>	F	Sig. (p)
Pre Teaching	Experienced	20	4.32	0.15	1.80	0.74
	Less experienced	26	4.34	0.21		
During Teaching	Experienced	20	4.30	0.21	0.86	0.21
	Less experienced	26	4.39	0.28		
Post Teaching	Experienced	20	4.32	0.18	0.75	0.65
	Less experienced	26	4.34	0.24		

h. Are there differences in pre-teaching, during teaching, and post-teaching practices among lecturers by category of teaching specialists?

Table 8 shows the results of a comparative study of pre-teaching, current, and post-teaching lecture practice among respondents according to the expertise of the lecturers. The results of t-test analysis showed that there was no significant difference between expert respondents and lack of expertise. The 'p' values got from these tests were 0.22 for pre-teaching practice, 0.95 for teaching practice and 0.41 for post-teaching practice compared to a significant level set at a value of less than 0.05 (5%)

Table 8 - Analysis Tests "t" comparing the teaching practices of pre-teaching, current, and post-teaching lecturers by category of lecturer expertise.

Practice	Lecturer Expertise	n	Mean	Standard Deviation, <i>sd</i>	F	Sig. (p)
Pre Teaching	Expert	29	4.36	0.18	0.02	0.22
	Less expert	17	4.29	0.19		
During Teaching	Expert	29	4.35	0.22	0.48	0.95
	Less expert	17	4.35	0.31		
Post Teaching	Expert	29	4.35	0.19	0.62	0.41
	Less expert	17	4.30	0.25		

Observation Findings Analysis

In this study, the researcher also conducted observations of four lecturers who specialize in construction technology. These observations include the implementation of pre-teaching, current and post-teaching practices of Construction Technology lecturers in Vocational College of Malacca and Negeri Sembilan. The results of this observation analysis are shown in table form:

Table 9 - Observation analysis of practical teaching (respondents)

Practical teaching practices (Respondents)					
Practice	Practice	Practice	Practice	Practice	Practice
Pre teaching	Provide lesson plans (RPH)	√	√	√	√
	Provides training session plans (RSL)	√	√	√	√
	Provides teaching aids	√	√	√	√
	Teaching aids are used	√	√	√	√
During teaching	Teaching induction set	√	√	√	√
	Teaching methods	√	√	√	√
	Delivery of teaching	√	√	√	√
	Check student understanding	√	√	√	√
Post teaching	Reflection of teaching	√	√	√	√
	Provide training	√	√	√	√
	Student assessment	√	√	√	√
	Teacher advanced teaching	√	√	√	√

Figure 9 shows the analysis of observations of 4 Construction technology lecturers in practical teaching. In the pre-teaching section, all the lecturers provide a complete daily lesson plan (RPH) and complete training session (RSL). Lecturers are also seen to provide teaching aids appropriate to their teaching activities.

All four lecturers of Construction technology used induction sets at the beginning of the lesson. In addition, the teaching methods of teaching technology were used by the four lecturers and the style of presentation according to the teaching methods practiced during their teaching. Lecturers were also seen to examine students' understanding of Construction technology during their practical lessons.

In the post-teaching practice, it was found that all the expert lecturers applied the elements in the post-teaching practice of Construction technology where the lecturers practiced reflective teaching, provided student training, made student evaluations, and explained the lessons of the next chapter. In conclusion, the observation method can be summarized that all respondents, comprising four expert lecturers, incorporate elements of practical teaching technology in their practical teaching.

6. Discussion

Research question 1:

The results of the analysis of data that have been used for study question 1 show that Lecturer in Construction Technology at Vocational College of Malacca and Negeri Sembilan have high readiness in the element of preparation of teaching plans during pre-teaching. The findings show that the lecturers have been exposed to preparing pre-teaching lesson plans. This is also in line with the studies of Johdi (2007) and Yusri (2013) who state that to be effective teachers, teachers must make teaching plans before beginning teaching and learning, including experienced teachers,

excellent teachers and specialist teachers. This can be avoided if the teacher does not answer the student's question or always defer the answer, causing the student to lose confidence in the teacher and thus lose interest in continuing to learn.

Research question 2:

The results of the analysis of the data for study question 2 showed that Lecturer in Construction Technology at Vocational College of Malacca and Negeri Sembilan have high readiness in preparing teaching materials during pre-teaching. The findings of the study also prove that the lecturer has been exposed to preparing teaching materials. The element of preparation of the Lecturer in Construction Technology for teaching aids (BBM) is in line with the cognitive theory (1952), that learning is a change of behavior to change the cognitive structure of students to adapt to the needs of their learning situation. Therefore, teaching aids are intermediaries that play an important role in achieving these goals. This is also supported by the study of Norma (2004), Aszoura (2007) and Charlie (2008), who found that teachers who use BBM in their teaching and can present the content with clear messages, effective teaching in a short time, help achieve teaching objectives, and engaging students in teaching. Indirectly, students' congressional abilities become more active because of the use of teaching aids.

Research question 3:

The results got from the study question 3 showed that Lecturers in Lecture College at Melaka and Negeri Sembilan Vocational Lecturers have high readiness in the preparatory element of the pre-lesson. The findings of the study also prove that the lecturer has been exposed to preparing the lessons. This is under the criteria stated by Chia (2012) in the result of her research on the teaching practice of technical teachers, namely in teaching and learning teachers are asked to master the content to be delivered to give them confidence to teach better and effective. In addition, teachers also need to make sure that the content they want to present is in line with the student's level of mastery and will also attract students. The results are also in line with the opinion of Yoakam and Simpson (1957) in Chia (2012) that a teacher cannot describe a unit well taught without fully understanding the field of teaching. Whereas for teachers who understand the areas of study to be taught, they can perform their tasks effectively.

Research question 4:

The results got from this study show that Lecturer in Construction Technology at Vocational Colleges in Malacca and Negeri Sembilan have a high level of elementary teaching ability during practical teaching. This finding confirms that the lecturer has been exposed to the elements of teaching methods during teaching. The results are supported by Foster (1995) and Gabbin (2002) who state that teacher-centered teaching and learning methods do not teach students basic skills such as thinking skills, problem solving and communication skills. The education system in Malaysia that emphasizes on academic achievement indirectly causes educators to choose a teacher-centered or lecture-based method of delivering lesson content and covering syllabus to meet exam requirements (Mladenovic 2000). Therefore, for faculty teaching lecturers are encouraged to use student-centered methods to diversify their teaching activities and to make a positive impact on Construction Technology students.

The results are further strengthened by the findings got during practical teaching, most of the lecturers choosing appropriate teaching methods to implement the teaching. Here is an excerpt from the interview:

'..... The methods I use are often variable and not just one method, they all have to adapt to the situation, the number of students and what to teach. For example, for a folding work module, I would divide students into small groups and publish a chair, the chairperson to give a briefing and paperwork. During the hands-on activities I will go to each group to make sure each student is properly cared for and if there is something they do not understand I will explain to them directly during the hands-on activities.'

Research question 5:

The results got from the study question 5, show that Lecturer in Construction Technology at the Vocational College of Melaka and Negeri Sembilan have high readiness in the element of post-teaching training. The findings of the study also prove that the lecturer has been exposed to the training activities of the students during post-teaching. The findings of this finding are in line with Yeo's (2011) study of the relationship between training and academic achievement of high school students in that they found that there was a significant relationship between the two variables. This is also supported by Featherstone (1985) in Ainul (2011) who stated that the positive effects of training given to students were acknowledged not only by teachers but also by parents and the school administration. Therefore, it is undeniable that the lectures provided by the lecturers have a positive impact on the students as long as they are not burdensome. Here's an excerpt from the interview:

'..... Ok... actually through this internship is enough for students to remember the lessons they are learning because they are doing what they themselves are learning. But as a reinforcement I will devote 15 minutes to give them a training or quiz once I'm done. This quiz is not just an assessment for them but a reinforcement so they do not forget what they learned that day.

Research question 6:

The results got from the study question 6, show that Lecturer in Construction Technology at the Vocational College of Melaka and Negeri Sembilan has high readiness in the element of post-teaching evaluation. The findings also show that the lecturer has been exposed to student assessment activities during post-teaching. This is in line with previous studies that stated that the purpose of assessment is to help students master the content (Press & Zaliha, 2002), improve student learning (Gronlund, 2006; Roeber, 2002) and grade (Airasian, 2001; Black & William, 1998). These assessments include written or oral assessments carried out throughout the course until the end of the year (Ibrahim & Siti Zaliha Reduan, 2002). Effective assessment can help teachers identify student learning levels and an effective teacher teaching.

Research question 7:

The results that all aspects have p values that exceed the significance level of 0.05 ($p > \alpha$). The summary of findings for the seven research questions is:

- i. There were no significant differences between pre-teaching practice and lecturer teaching experience.
- ii. There were no significant differences between practice during teaching practice and lecturer teaching experience.
- iii. There were no significant differences between post-teaching practice and lecturer teaching experience.

This study shows that there is no difference between teaching practice and teaching experience. This finding contrasts with the findings of Khalid (2009) who found that experienced teachers have higher confidence in teaching compared to less experienced teachers. However, Khalid's study, though comparing teachers' beliefs with experience, does not take into account the teaching practice factors used by the teacher. According to Yusri (2013) states that teaching practice is very important for teachers to produce effective teaching for students.

From the perspective of this study involving the subject of Construction Technology found that Vocational College lecturers have been provided with KSKV (Vocational College Standard Curriculum) which should be followed by each lecturer in carrying out practical activities, indirectly lecturers of Construction Technology in Malacca and Negeri Sembilan also taught is the same. Therefore, their teaching practices are based on the content of KSKV.

The conclusion can be made that pre-teaching practices, during teaching and post-teaching practice of Construction Technology lecturers are the same even though they have different teaching experiences for the KSKV factors that every lecturer at Vocational College needs to adhere to.

Research question 8:

The results that all aspects have p values that exceed the significance level of 0.05 ($p > \alpha$). The summary of findings for the eight research questions is:

- i. There were no significant differences between pre-teaching practice and lecturer level of expertise.
- ii. There were no significant differences between practice during teaching and the proficiency level of lecturers.
- iii. There were no significant differences between post-teaching practice and lecturer level of expertise.

Based on the findings, it shows that there is no difference in practical teaching practice to the level of lecturer expertise. This is because 91.3% of KV lecturers in Malacca and Negeri Sembilan have the same the master's degree in education although the lecturers have different levels of SKM expertise.

Goodwin's (1999) study in Khalid et al. (2009) found that teachers' demographics and student achievement found that teacher eligibility was the best predictor of teacher external factors such as class size, parental education, and income and language background. The lecturer's credentials are very similar although they have varying degrees of SKM expertise. According to Johari & Aslinda (2010), the subject of pedagogy is one of the educational subjects that every student in the educational sector should follow and he said through this subject student learn to teach such as lesson planning, teaching methods, assessment and professionalism.

Therefore, it can be concluded that there is no significant difference between the teaching practices of KV lecturers in Malacca and Negeri Sembilan as the lecturers have the same level of pedagogical knowledge because of their studies while pursuing a bachelor's degree in education.

7. Conclusion

Based on the results of the study, it was found that lecturers of Vocational College Construction Technology in the State of Malacca and Negeri Sembilan have implemented good teaching practices and appropriate subject involving practical work. Indirectly it can be concluded that the lecturers of Construction Technology have knowledge of pedagogy in carrying out their teaching activities.

However, there is a lack of students' supervision in the element of training and practical evaluation. Therefore, teachers need to immediately correct any weaknesses identified to prevent leakage in teaching activities and provide effective learning for students in line with Shahril's (2004) view that effective teaching is the ability of teachers to convey teaching information effectively, which indirectly motivates students to excel in success.

To realize this, cooperation from various parties such as the education ministry, administrators, parents and the community must be enhanced to assist teachers in producing outstanding students in line with the national education philosophy (1996) which is to create intellectually, spiritually, emotionally and physically based on trust and obedience to God.

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