QUALITY TEACHING AMONG LECTURERS AND METHODS OF IMPROVEMENT BASED ON INDUSTRAL EXPERIENCE

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ABSTRACT - The quality of graduates is one of the standards of measurement in meeting the demands of employers. However, the extent of our graduates' employability to fulfil industrial demands does not rely solely on their theoretical skills, but their technical skills as well. Moreover, how the lessons were delivered by lecturers in universities may contribute to the quality of our graduates. Therefore, this study was conducted to determine the need for industrial experience amongst lecturers in teaching and learning. As well as determining the best approach that will assist fellow academicians in the quality of their teaching. A total of 30 out of 121 UTMSPACE lecturers participated as respondents in this study. Data were collected from the questionnaires which were disseminated to lecturers from Centre for Diploma Studies (PPD) and Centre for Degree and Foundation (PPI) in UTMSPACE. Based on the analysis, three (3) categories were determined as required for the first objective, that is; the need for industrial experience amongst lecturers in teaching and learning. While the second objective is to determine the best approach that can assist our lecturers in improving the quality of their teachings. The result shows for the first objective, with the highest average mean score, Program Learning Outcome is the main criteria, which requires lecturers with industrial experience in their teaching and learning. While objective two, majority of respondents (lecturers) prefer to collaborate with industries as the best approach in improving the quality of their teaching and learning in order to produce graduates that are able to meet the need of their potential employers. In conclusion, even though only 24.77% participated in this study, they have provide sufficient data; an indicator on the need of industrial experience in teaching and learning, as well as determining the best approach that may assist lecturers in UTMSPACE on improving the quality of their teachings. The result of this study may be use in devising improvements according to the lecturer's needs and wants.

Keywords: Industrial experience, effective learning, teaching and learning, learning through experience, quality teaching.

1. INTRODUCTION

According to the work of Locke, Berkeley and Hume (1974-1804), defines knowledge that is based on experience as "empiric knowledge" or "aposterian knowledge", which refers to someone with experience in their field or also known as expert [1]. Whereas the word industry came from the Latin word "industrius" (a) defines as producing goods or services (b) and is an economical activity that processes raw materials or provide services that drives the country's economy. Industrial experience can be defined as knowledge, skills or experts in a field that able to generate the country's economy [3]. According to Prof. Tan Sri Dr. Sahol Hamid Abu Bakar the former Vice Chancellor of UiTM (Utusan Malaysia Online, 2017), raised the question about how the graduates will encounters the challenges in the industry and life if only being taught theory by their lecturers [4]. According to him, theoretical knowledge alone is not enough to help the student understand the real challenge in working industry, let alone to produce a more holistic student. In line with the concept of 'Experience is the mother of all knowledge'. the Ministry of Higher Education, (23 December 2017) mentioned, with industrial experience gained by lecturers, that is a set of skills and knowledge that suits their respective fields, the fourth industrial revolution (Industry 4.0) is able to be tackled globally.This statement is supported by Datuk Idris Jusoh (Bernama, 2017), which expects that in the next 6 years, the country will reach 30% teaching force come from individual or professional who have experience working in the industry [5]. In the context of transformation. Public university oblige to create new strategies to encounter the challenges in future when the quality of the graduated become the standard. (Utusan.Com, December 2018). [6]. In overall, majority agreed that the marketability of graduates is very critical due to the poor quality the graduates. Hence we can say that the roles of teaching staff are very crucial in producing quality graduates.

2. METHODOLOGY

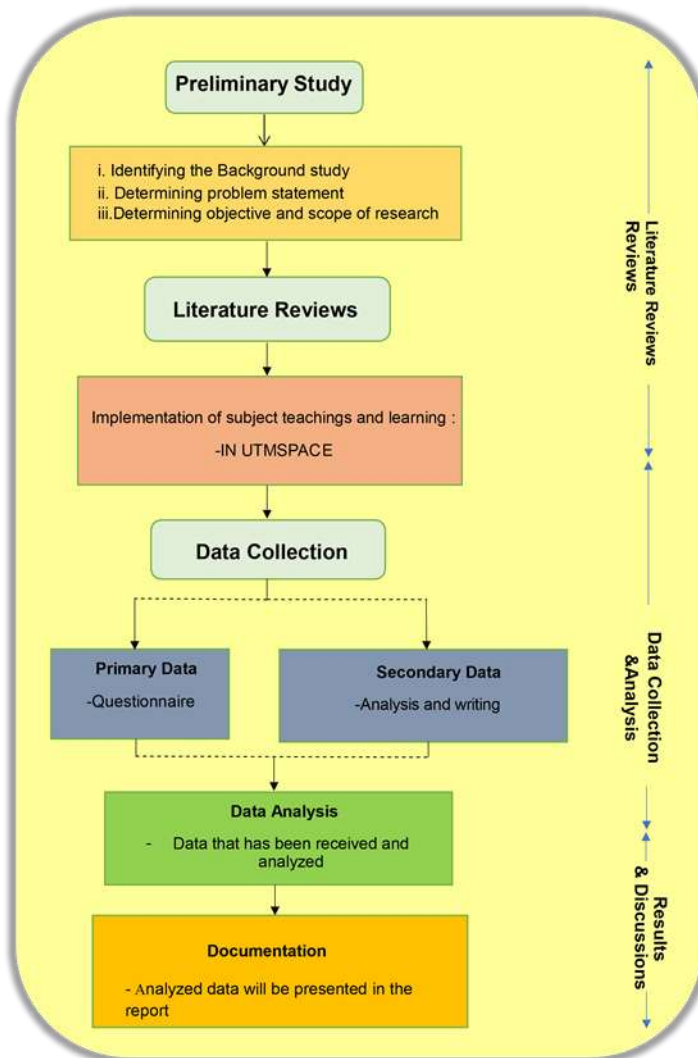The research methodology is shown in Figure 1:

Figure 1: Research Methodology

The questionnaire was distributed to 30 lecturers from the Centre for Diploma Studies (PPD) and Centre for Degree and Foundation Programme (PPI) at UTMSPACE Kuala Lumpur. The information from the sample was collected via questionnaire; while the research data were based on the respondents mean score

towards ways of improving lecturers teaching. The collected data is then analyzed using descriptive analysis in order to obtain mean value, standard deviation, percentage or frequency. The results of the mean score were analyzed via average mean level of agreement, which was classified into three (3) levels; that is low, medium and high [4]. The mean scores obtained were then categorized into interval score to obtain respondents level of tendency of agreement for the first objective and other objectives as tabulated in Table 1 below.

Table 1: Weighted Mean Level of Agreement

Scale	Level of Agreement	Mean Scale Interval
1	Low	1.00 - 2.33
2	Medium	2.34 – 3.66
3	High	3.67 – 5.00

Reference: Student Self-Development Committee 1999/2000

Information was gathered from respondents via questionnaire. The information gathered are respondents' general information and the need for industrial experience amongst lecturers which was based on three (3) main aspects, that is; program learning outcome, task assigned for academic staff and implementation and course assessment and tendency to choose the best approach in improving the quality of teachings amongst lecturers.

2.1. Population and Sample

Total population of UTMSPACE lecturers in Kuala Lumpur and Johor Bahru is 121. A total of 30 lecturers submit their feedbacks via questionnaire were lecturers from Centre for Diploma Studies (PPD) and Centre for Degree and Foundation Studies (PPI).

2.2. Research Instrument

According to Kumar (2011), a questionnaire comprises of sets of written question and will be disseminated to targeted respondents for answers [1]. The advantage of disseminating questionnaires is that the researcher is not required to meet in person with respondents to collect their feedback [2]. The data obtained from the survey is used based on a list of program learning outcome (PLO), task assigned for lecturers and implementation and course assessment [3].

2.3. Data Analysis

The research data for the Likert Scale will be analyzed using descriptive procedure by calculating mean (average), frequency and percentage. According to the work of Abdul Ghafar (2003), once the data has been analyzed, these items may be categorized into three (3) different levels of agreement based on the score range achieved, that is; low (1.00-2.33), medium (2.34-3.66), and high (3.67-5.00) as tabulated in Table 1 [3].

3. RESULTS AND DISCUSSION

The result obtained for this study was able to grouped the respondents weighted mean level of agreement on the need for industrial experience amongst lecturers in teaching and learning into three (3) categories; Program Learning Outcome, Lecturers Task and Implementation and Course Assessment. Overall, respondents' level of agreement is at the highest level for all three (3) categories, as shown in Table 2, Table 3 and Table 4. Meanwhile, Table 5 shows a list of improvement where the lecturers can picked freely for the purpose of improving their teachings. Overall comparison, the practice with the highest mean score of 4.55 is collaboration with other industry. The approach to collaborate received highest tendency amongst lecturers. By implementing collaboration with industries that involves direct cooperation possessed numerous benefits for lecturers, especially in terms of technology skills and practical knowledge on industrial needs that may be useful in their teachings. This was supported by Prof. Tan Sri Dr. Sahol Hamid Abu Bakar (2017). He state, lecturers with industrial experience have a better understanding with current events in industries that will benefit their students [4]

Table 2:   Weighted Mean Level of Agreement of Respondents towards learning and teaching outcomes.

No.	Learning and Teaching Outcome	Mean Score
1.	Explaining and discussing intellectually on theory, concept and principles related to the basics of the subjects learnt.	3.68
2.	Apply knowledge and skills in the field studied to resolve related issues	4.58
3.	Demonstrate skills in analyzing and evaluating issues in the subjects studied using the latest techniques, tools and technologies in line with institutional and professional practices.	4.52

No.		Mean Score
4.	Interact effectively and collaboratively in managing relationships within teams and organizations	4.84
5.	Communicate effectively and confidently through written, visual and oral presentations to various target groups.	4.87
6.	Use a variety of digital applications while also identifying and processing data related to the field of study.	4.61
7.	Using and interpreting standard and complex numerical data as well as graphical / visual data in related fields	4.00
8.	Able to demonstrate leadership criteria and responsibility to achieve the same objective.	4.29
9.	Identify self-development initiatives and opportunities for career development or continuing education	4.45
10.	Able to demonstrate the ability to identify new opportunities in dealing with related issues	4.68
11.	Demonstrate the ability to perform tasks and make decisions in related fields ethically, professionally and with integrity	4.71
	Average Mean Score	**4.48**

Table 3: Weighted Mean Level of Agreement of respondents towards Lecturers Tasks

No.	Lecturers Tasks	Mean Score
Aspect 1: Learning and Teaching		
1.	Provide CI, lecture notes for teaching and learning purposes.	3.90
2.	Teaching a course include attend lectures and tutorials / lab work / studios / workshops as stated in the CI within a certain period for each semester	4.00
3.	Provide plans and materials for evaluation of courses conducted along with answers and marking scheme that is suitable with the agreed curriculum.	4.93

Aspect 2: Project Supervising

1.	Carry out supervisory work as listed by the department	4.23
2.	Plan a supervision table for students project, examine students project and evaluate their project during presentation sessions.	4.00
3.	Take appropiate actions to ensure that the students carry out their projects in accordance with the objectives that have been determined.	4.29

Aspect 3: Supervision for Practical / Industrial Training

1.	Review industry final reports and log books as well as evaluate student industry training presentation sessions	3.97
2.	Assist student by providing solutions to their problems during industrial training	4.19
3.	Conduct industrial training supervision visits to organization for adjusting job scope, supervision and evaluation.	4.65

Aspect 4: Course Adjustment

1.	Prepare and update the CI for courses that was adjusted according to the suitability of the approved curriculum	4.16
2.	Provide a 'brief project' (if required) according to the guidelines provided by the department	4.09
3.	Prepare exam questions complete with answer schemes and marking schemes in accordance with the curriculum and approved by the panel	3.97

Aspect 5: Students Development

1.	Carry out work related to the development of student personality, student activities whether organized by academics, Student Affairs (HEMA) or external organizations and so on	3.94

Aspect 6: Moderator of Final Examination Questions

1.	Ensure reviews of final examination and answer schemes to comply with the syllabus standards in the course outline and is done within a certain period set by the department	3.97

Average Mean Score	4.15

Table 4: Weighted Mean Level of Agreement of respondents towards implementation and Assessment of Learning and Teaching

No.	Implementation & Assessment of Learning and Teaching	Mean Score
Aspect 1: Implementation of Learning and Teaching		
1.	Conduct lectures either in the lecture room / studio or workshop that involves theory and learning via oral	4.10
2.	Active teaching that involves activities during learning in class, for instance presentation, entertaining students questions and so forth.	4.13
3.	Conduct 'Scenario Based Learning' through teaching during school visits, for instance, bringing students to visit a place or location that is related to the subject studied while gathering information for the purpose of analysis	4.39
4.	"Cooperative Learning" is a form of teaching that requires students to work together for assignments, lecture session and during activities.	4.16
5.	Academic visits conducted for certain subjects with the purpose of exposing students to work knowledge.	4.39
6.	Conduct industrial training with the aim of exposing students to work environment and the way the world works in reality as well as assisting students in selecting the best firms for their industrial training	4.39
ASPECT 2: Assessment of Learning & Teaching		
1.	Implement course evaluation for students such as tutorials as stated in the CI within a period of time per semester	4.00
2.	Implement course evaluation for students such as quizzes as stated in the CI within a period of time for each semester	3.97

No.		Skor Min
3.	Perform course evaluations on students such as tests as specified in the CI within a period of time for each semester	4.16
4.	Perform course evaluation for students such as assignments as specified in the CI for a period of time per semester	4.00
	Average Mean Score	**4.06**

Table 5: Tendency towards Methods of Improving Teaching and Learning Quality amongst Lecturers

No.	Methods of Improving the Quality of Teaching and Learning	Skor Min
1.	Industrial Training	4.38
2.	Seminars Involving Academic and Industry Representatives	4.22
3.	Workshops Involving the Collaboration of Academics and Industry Representatives for Discussion of Related Issues	4.29
4.	Collaboration with Industries	4.55
5.	Discussion with Industries	4.42
	Average Mean Score	**4.37**

Overall, respondents' level of agreement is high for the need of industrial experience amongst lecturers in teaching and learning with average mean score of 4.06-4.48. From the three (3) mentioned categories, "Program Learning Outcome" requires the most industrial experience amongst lecturers in teaching and learning, with average mean score of 4.48. While "Lecturers Task" was placed last, with average mean score of 4.06. A summary on the need of industrial experience positions for lecturers in teaching and learning was divided into three (3) categories as shown in Table 2, Table 3 and Table 4. Results from analysis have shown, majority of respondents agrees that industrial experience is needed in the teaching and learning of lecturers.

Moreover, analysis conducted for the second objective shows, overall, the level of agreement amongst respondents are high towards method of improvement that will assist in improving the lecturers teaching quality, with average mean score value of 4.37. Of the five (5) methods mentioned, the 'Cooperation with Industry' method is

the main method that is most to improve the quality of teachings with an average mean score of 4.55. On the other hand, "seminar" is ranked lowest with average mean score of 4.22. Summary of improvement methods that can help improve the quality of lecturers' teaching is ranked in order as shown in Table 5. From the results of the analysis, majority of respondents agree that all methods listed are able to improve the quality of lecturers' teaching.

The findings of the study in line with the statement issued by Datuk Idris Jusoh (Bernama, 2017) expects that in the next six years, the country will reach 30 percent of the teaching force will come from individuals who have worked in the industry [5].

4. CONCLUSION

In conclusion, even though only 9.26% of the total population gave their feedbacks to this study, it's enough to provide an indicator for tendency to pick the best improvement method for the quality of lecturers teaching based on the perspective of lecturers in Centre for Diploma Studies and Centre for Degree Program and Foundation Studies, SPACE. Therefore, responsible parties need to pay attention and act accordingly to improve and further enhance the quality of learning and teaching of lecturers, hence, producing quality graduates that can meet the demands of industrial market. The findings from this study can be used in preliminary planning for the implementation of effective and efficient improvement methods according to the choice and needs of lecturers.

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