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DIFFICULTY LEVEL IN PREPARING ELEMENTAL COST ANALYSIS AMONG QUANTITY SURVEYING STUDENTS IN UiTM PERAK

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Abstract:

Quantity Surveyor (QS) is a professional in construction cost management, procurement, contractual issues, and infrastructure. Elemental Cost Analysis (ECA) is one of the scope that QS students will learn and use it in the industry as a method of estimating the cost of construction. However, QS students in UiTM Perak have encountered a problem in their implementation of ECA method in the construction economic subject. The aim of this research is to identify what is the main problem that can make the ECA is one of the hard subjects, to learn and why the problem is caused causes and how to overcome it. The techniques used in this research is by distributing questionnaires to to a number of 60 part 6 students of UiTM Perak taking Diploma in Quantity Surveying. The research objectives are to identify what will be the Difficulty level of preparing ECA method, to identify the factors that influence UiTM QS students and to examine the steps to improve skills in preparing ECA method.

Keywords: Education; Elemental Cost Analysis; Quantity Surveyor Student; Study Difficulty

1.0   INTRODUCTION

Elemental Cost Analysis (ECA) is one of the subtopics in construction economic subjects in QS in Universiti Teknologi MARA (UiTM). A building economist can be regarded as an adviser that gives advice and views to his clients to get the best value for money (Khairani, 2011). Giving the value for money to a client is one of the main productivity of QS that will lead to the most valued construction. ECA is subtopic from the Main topic which is analysis in the construction economics subject. The cost analysis of a construction project could provide the quantity surveyor useful cost data information and the cost analysis provides a yardstick for the client and the designer (Khairani, 2011). Khairani (2011) also stated that the success of a planning and cost control system depends on the proper use of cost information. The cost analysis is produced according to certain categories that will lead to easy to use and easy to read. ECA method will be used as according to Manual for the Preparation of Elemental Cost Analysis, which are used by Institution of Surveyors Malaysia (ISM).

2.0   LITERATURE REVIEW

Quantity surveyors have special characteristics, which are crucial in estimating cost. The characteristics of quantity surveyors are having the knowledge to use ECA, knowledge of material measurement in construction, knowledge of material price, accuracy, common sense and imagination to visualize the building through reading the drawing. By having these characteristics, QS will be able to use ECA method in an easy way, being trusted QS is a big deal in the construction industry, bribery in construction is the unhealthiest in the business because of it will contribute to a lot of money and having a trusted firm will lead a better business. Knowledgeable and experienced QS are needed in the world of construction economy. It will lead to being a better performance hence can improve the construction period and reduce the cost of construction. The client is thus placed in a subordinate position in the relationship with the professional. He must rely either on the judgment of other experts, or of other "knowledgeable" persons in the field, or on the "experience" of other clients. (Hoxley, 1995)

2.1 Preliminary Estimate Method

The method of preliminary estimating most commonly used is that of approximate quantities. The procedure followed is similar to that employed to obtain building tenders, except that, instead of producing detailed bills of quantities for the contractors to price, the surveyor takes off composite items of quantities that are then priced at all-in rates. (Butler, 1973)

2.2 Elemental Cost Analysis (ECA)

ECA method is well-established long time ago, but this method is not commonly being used. For generations, the process of cost estimation has been manual, time-consuming and error-prone (Abanda, 2017). Estimating cost will rely fully on the measurement of the construction work involved. To make sure those tasks to work effectively, the one who involves in estimating must have special characteristics. The objective of ECA is to determine the cost range with indications of quality or advice on owner's cost limits (Tas & Yaman, 2005).

2.3 Study Difficulty

Students are also known as someone who attends an educational institution. Their main goal is to get the highest mark and get all the knowledge that will be taught by lecturers. Getting highest mark and enough knowledge will lead the student to get a better work for a better salary for their future life is the reason why they want to learn some sort of knowledge. The main goal for educational systems is normally to increase human capital, not necessarily to maximize student effort (Hopland & Nyhus, 2016). This study will be focusing on a student in UiTM Perak that is normally from age 18 to 25. Student's study will lead them to a better working place. Getting a good examination result and good in soft skills will lead them to a better salary and a stable job.

2.4 Preparation ECA

For the preparation of an elemental cost analysis, student shall require a priced Bill of Quantities, a drawing showing plans and elevations, and a list of the element. It would also be very helpful to have the abstract (slip sort) and dimensions although these are not essential. Each item in the Bill has to be allocated to one or more elements until every item has been dealt with and the elemental totals will equal the total od the tender. Once an office has adopted a certain form of analysis it will be possible to prepare the Bill with subsequent analysis in mind, this will ease the task of the analyzer considerably and will make it unnecessary to depart radically from the usual order of billing as long as the main elements can be kept separate within each trade or section of trade.

2.5 Step to Improve

Students learn in many ways by seeing and hearing; reflecting and acting; reasoning logically and intuitively; memorizing and visualizing and drawing analogies and building mathematical models; steadily and in fits and starts. Teaching methods also vary. Some instructors lecture, others demonstrate or discuss; some focus on principles and others on applications; some emphasize memory and others understanding. How much a given student learns in a class is governed in part by that student's native ability and prior preparation but also by the compatibility of his or her learning style and the instructor's teaching style (Jensen, et al., 2011)

3.0 METHODOLOGY

This research will use two types of data collection, which are primary data and secondary data. The primary data will be gathered from a quantitative approach which is by distributing questionnaires. For the secondary data collection method contains a review of the literature like journals, papers, manual and guidelines also from relevant websites.

A simple random sampling is chosen for this research. A questionnaire will be given to 60 QS students from semester 6 who are taking the course diploma. The total population is 188 students and it was calculated thirty percent of the total population. After all the data have been collected, an arrangement and verification of the data will be done. The research methodology will follow by analyzing analyze the data and coming come out with the findings. The conclusion and some recommendation will be made as the last step. The questionnaire is produced regarding on the topic to the respondent and is designed to be as simple as possible to maximize the return rates.

All the data will be collected and the analysis will be made to get the findings of the study, whether it will achieve the objective or not. Data gathered from the questionnaires will be analyzed by using Statistical Package for Social Sciences (SPSS) Software Version 23.0. Conclusion and recommendation will be made based on the result of the data analysis.

4.0   ANALYSIS AND FINDINGS

Table 1 below can be an analysis that the most difficulty in preparing Elemental Cost Analysis (ECA) is getting the contract document and getting the drawing. This is because that document is not easily borrowed from a firm or government sector who do are not have the bill of quantities without the lump sum item. Checking for error for calculation is also the most difficult because the student may not know if they had miss calculated.
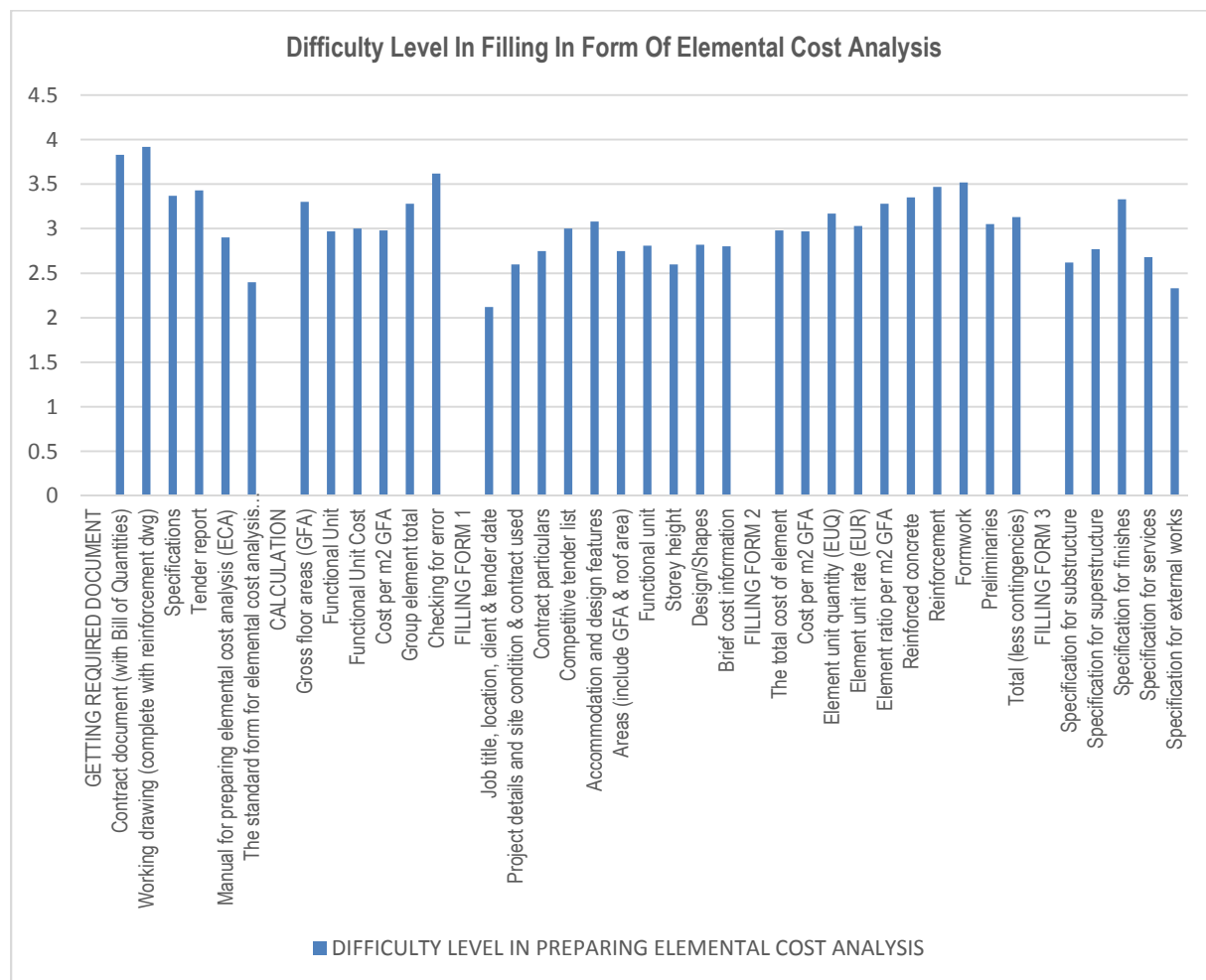

Figure 1: Difficulty Level in Filling In Form Of Elemental Cost Analysis

In achieving second objective which is study difficulty faced by quantity surveyor students during class shows that the student has a problem that they are not quite focusedon the class. They also not make eye contact with their lecturer. They do not give full attention to their lecturers on the lesson being taught about the implementation of ECA. They not fully seeing and hearing to their lecturer while they being taught about the implementation of ECA. The analysisalso shows that the hour of teaching is not enough for them. It is a major cause why they are facing this problem during class.
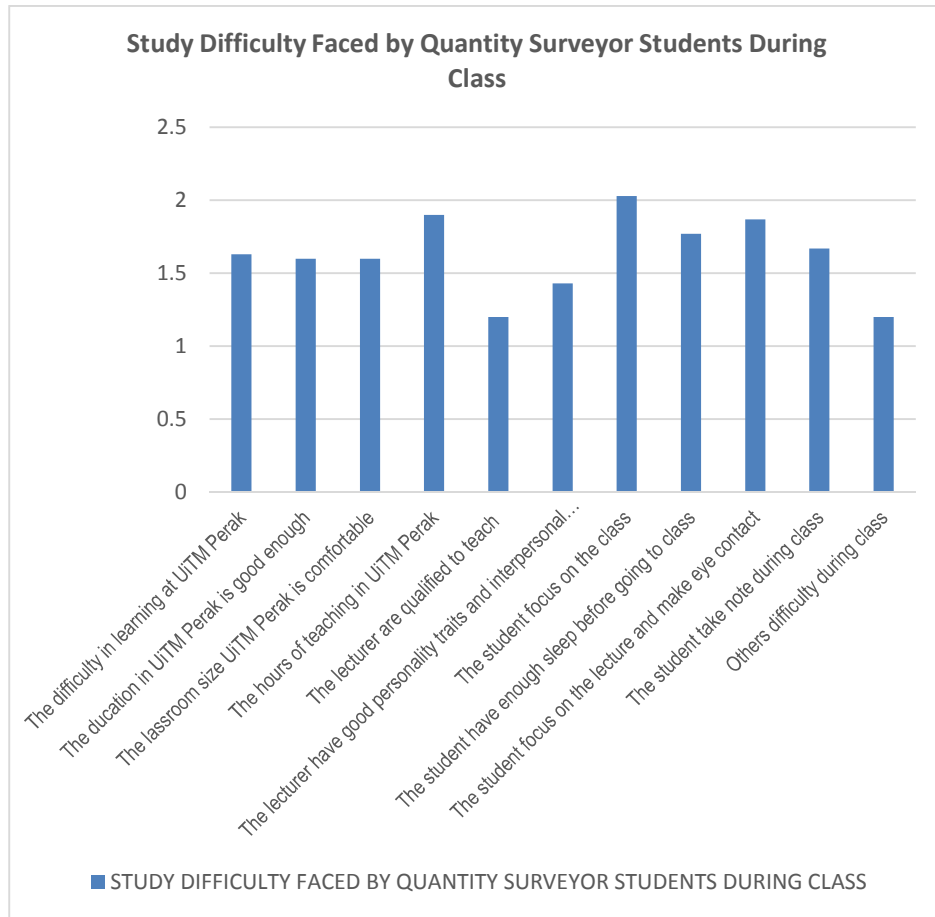

Figure 2: Study Difficulty Faced by Quantity Surveyor Students During Class

Recommendation are supported with the questionnaire answer below, which is students need more learning hours to ensure they Have a better understanding on how to implement ECA as a preliminary estimate. Student also agreed that by having a bigger size of classroom will affect their knowledge and understanding. They also agreed that they must to have an enough sleep before go the classroom.
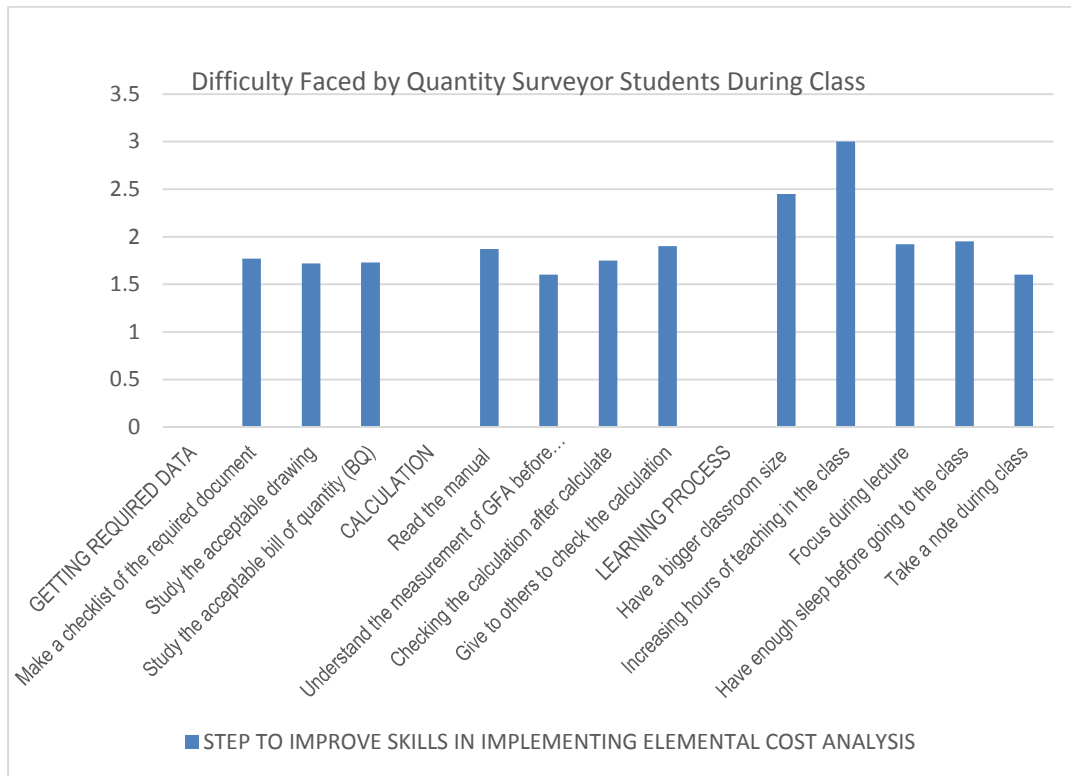
Figure 3: Study Difficulty Faced by Quantity Surveyor Students During Class

5.0   CONCLUSION

Many students have problems in their study, they want learnt and get a proper job in their future. By knowing their barrier to success, it will help the country to growth with the The explosion of new ideas and knowledge. Student must know their barriers as they will know how to manage in the right way. For the implementation of ECA, the The most difficult aspect is most difficulty is getting the BQ and working drawing because of it is hard to get accepted by ECA required. This study also can be concluding that students need more focus in the class, add getting more hours in learning and they must have eye contact with the lecturers.

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