



# The Installation of Equipments Influences the Process of Learning and Teaching at the Pagoh IKTBN

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### ABSTRACT

One management which does not possess a systematic or a fully completed system will cause the installation of a laboratory or workshop to not to operate smoothly. The venue selected to undergo this research was at the Institut Kemahiran Tinggi Belia Negara (IKTBN) ('National Youth Advance Skill Institute'). Among the issues faced is in regards to the duration of time taken in handling the tender process which at times consumed a too long duration. Besides that, the supervision during the period of installation or maintenance is vital to ensure that the output of quality work meet the specification as in the contract. The instrument of this research uses the Interview and observation methods. The findings of this research analysis conducted had successfully revealed all of the information required. Via audio recordings recorded at the time of the interview being conducted, that is the current and thereafter information regarding the installation activity in the tender management process. Lastly, all the management's task in respect of the installation conducted require procedures or careful steps to ensure that issues do not arise and even if there is any, it can be averted.

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### Introduction

In general, the Institut Kemahiran Tinggi Belia Negara, Pagoh (IKTBNP) was founded with the purpose to provide easy training approach based on the current implementation which covers teaching in Human Development and Skill Training. The teaching in Human Development is conducted through religious, marching, leadership, entrepreneurship, constitution, society and sports activities. The Skill Training consists of classroom theory (30%) and practical training (70%). As spoken by the Hon. Minister of Sports, Khairy Jamaluddin Abu Bakar "The elevation in status does not only involve a name change but the enhancement of quality in various aspects," (Ziauddin Sharuddin, 2015).

The construction of an apparatus by physical means known as installation or preparation of a laboratory for a special purpose requires expertise. The course of an installation, require a set clear and detail plan based on the directives given. Besides that, the laboratory whether big or small in size, built according to the justification, which stress on the effectiveness of the laboratory itself depends on the needs allocated by the owner. If the environment is conducive, it will be optimized in its use and reduce the cost of that quality laboratory building. From the aspects of division of the effective areas, the quantity of machines and equipments must be taken into account as an example the configuration of the machines or equipments must be systematic besides the role of the strict, efficient and competent work force. This brings life to the laboratory itself as to whether it will operate smoothly or otherwise. Moreover, the physical construction of a laboratory must also adhere to the specification and the type of contract pre-

determined and agreed upon. If the planning and the draft of the project is orderly organised, the construction process will surely progress smoothly and achieve its success.

### Problem Statement

#### First Issue: The long duration of time taken to process a tender

The issue surfaced in the Institut Kemahiran Tinggi Belia Negara (IKTBN), at Pagoh is in regard to the long duration of time taken to process a tender and at times the duration took too long. Mostly the implementation of a tender does not come easy and it inclines to twist and turn and the potentiality of being awarded a tender is 0% as there are other competitors with similar objective. The evaluation of the contractor and the consultant is accessed from the offer letter submitted by the tender participants, as to whether they will fulfilled the conditions or otherwise. Many aspects must be considered by the party offering the tender such as the suitable proceeding price, the quantity or the materials and etc according to the budget and the price agreed upon. This process will surely consume a long period of time. The trend as a top contender's effort to achieve the maximum in the usage of equipments, enhancement of productivity, maximum use of the resources, quality enhancement and aware of the maintenance system to achieve the objective ( Garg & Deshmukh, 2006)

Besides that, supervision in the duration of the installation and the maintenance is vital to ensure that the quality of work generated is in accordance to the specification of the contract. If ever a defect in the implementation of public sector project surfaces, the integrity of the department will be questioned. The potential of a failure in a public

sector project will occur if each party adopts its own work etiquette. However, the etiquette and integrity is difficult to implement if the procurement system practiced allows them to an opportunity to gain prosperity and set aside all of their substantive responsibilities. Supervision should be conducted in an etiquette manner (Shamsudin & Kamarul, 2011).

In the Construction Industrial Development Board (CIDB) have also outlined the needs to review the procurement system adopted by the industries. In the Terms of Construction Contract for Subcontract Work 2006 model was launched to overcome the issue of the payment from the main contractor to the sub contractor. Thus every resolving method highlighted will only be effective if the root of the subject of all issues are initially resolved. Its clear that the re structure of profit taking system is vital and be expedited to restore the public sector image. The re structure could be conceptual based on the three dimensions i.e. re structure of the assets, the capital and the management (Bowman & Singh, 1989).

### **Second Issue: Damages to be Repaired**

Normally accidents may occur caused by human negligence, lack of the know how of the task performed and damage or failure of either the material, the equipment or the machine being used (Mustapha, H. 2000). Thus, every faulty machine must be taken care of immediately before the fault is aggravated because according to Zulpakar, (2008) in his journal wrote that accidents involving the use of equipments and machines will occur if they are not properly cared for and orderly maintained from time to time.

Except that the opposite occurred in this institute. To repair a fault in a machine, the quantity of machine to be repaired must be more than one in number and the nature of the fault classified as major or serious. If the fault in a machine is considered as normal or minor in nature, the authority of the institute will not repair the said machine. According to Jaafar, (2001) the maintenance of equipments and machines must be conducted according to the schedule. Weekly and daily inspection must be conducted on the equipment and machines being used. Fault in machines and equipments must be reported immediately for further action. Even though among the reasons and excuses as to why the above mentioned happen is that the authority of the institute is unwilling to bear the expensive cost to repair a machine if the its warranty period expires. For example: if a minor fault occurs and the inner part of the machine is not able to function, faulty motor, or the spare parts of the machine is not available at any spare parts shop.

Further more, if only a minor fault occur in one machine, the authority of the institute need to prepare a comprehensive and detail description of the fault in a document. If only one machine is faulty, the process of preparing the documentation is cumbersome. According to Mohd Sabri Mat Deris (2007), to avoid a major fault or a total breakdown, which is very costly to repair, from happening, the facilities components available need to be handled with the best method and maintenance. Except that, the authority of the institute will take the initiative to cease the usage of the said machine and if another machine is also faulty only then the authority will take further action.

Following, the fault that has occurred in an old machine; Example an old machine found at the above mentioned institute was in 2004. If the authority of the institute were to repair and service that old machine, the maintenance cost is equivalent to that of buying a brand new.

Further more the software installed in the old machine is too outdated compared to the current brand. If the old machine is still wished to be repaired, the risk of the machine with the old version of components will not match with that of the current version. Thus the HQ of the institute will face an expensive cost to repair the old machine.

### **Literature Research**

This research is in respect of the installation of a laboratory and workshop which influence the smooth operation of the equipments. The equipment installed in the workshop will enhance the effectiveness of the process of learning and teaching ( Saharudin. S. A. 2008). This role is enforced on to the public sector, looking at that the skill training program involves high expenditure and huge investment in respect of the implementation, maintenance and also the purchase of machines and equipments ( Hamzaniza, 2008). The skills that is required by a trainer is in respect of humanistic skill. At the time the process of learning begins, the preparation of in complete and proper equipments will realize a quality work output ( Rafiy,2002). The preparation of equipments in the workshop need to be conducted much earlier before the class begins so that the flow of practical learning could be conducted successfully. Equipments form an important part in the installation of a laboratory because to ensure that the students possess the skill to perform the task. Ensure that the laboratory is in a neat and safe condition for the students' use while the activity is being conducted.

Besides that, expertise in a work force is also needed to ensure that the laboratory and workshop activities operate smoothly. To perform the entrusted task successfully a professional personal must undergo specific training to achieve the skills in a profession (Neil, 2002). The teacher should be ever ready to teach the students (Abdullah Zawawi, S, 2011). Because of that the teacher requires expertise in teaching and mastering the techniques and the proper method during the learning and teaching process.

The equipments installed in the workshop must also be taken into account. If concern and attitude towards equipments, such as tools and machines, in the workshop are not given due concern, the teaching and learning process in the workshop will not run smoothly (Atiqah, 2008). The installation and modification in the workshop must bring comfort to conduct the learning and teaching process.

### **Methodology**

This chapter shall discuss the methodology adopted by the researcher in the execution of this research. It is to the purpose to give the explanation as to how the research shall be conducted, the compilation of data and the analysis to achieve the accurate information. The researcher had utilized the qualitative research approach meaning a research data compiled through verbal and observations. In this quantitative research also, the researcher's sketch note and diary forms the main aspect and resource in affirming the field work executed. Data derived from quantitative research shall differ from that of the qualitative data (Jasmi, 2018). The following are two subjects discussed in this chapter, i.e.:

1. Research Instrument
  - i. Interview Method
  - ii. Observation Method

### **Research Instrument**

The instrument in this research utilized sample research at the National Youth Advance Skill Institute in Pagoh. In

this research several instruments are used in the compilation of data, among which are:

1. Interview Method
2. Observation Method

#### **The Interview Method**

The interview method is used to gather information regarding the installation installed at the above mentioned public institute of learning. Thus the researcher interviewed the Assistant Zone Leader, Mr. Mohd Farizan Bin Abdul Kadir. Every interview session took about 30 minutes. This method; the interview need to be reflective in nature and able to portray life and the actual situation regarding a phenomena Denzin (2001).

#### **The Observation Method**

The observation instrument is a mode to gather data by a direct review of the respondent and the research conducted be confidential. This instrument is a research technique often used. Researcher also used this technique in conducting his research. The researcher will conduct observation at the Industrial Mechanical Workshop in operation to gather data regarding the installation and also the repairs on the equipments and machines in use and also to gather data regarding the workers' reaction and experience in regards to the tender process executed. The adoption of this method is to the purpose of gathering a comprehensive data with the data gathered from other methods. And the statistics of this instrument in deductive (Associate Professor Dr. Haji Ahmad 2017).

#### **Data Analysis**

Base on the source of the data gathered after conducting the observation and the outcome of the interview executed.

##### **1. Interview with the Interviewee**

The interview conducted of late with the Vocational Training Officer (DV38), i.e. Mr. Mohd Farizan Bin Abdul Kadir as the Officer in charge in the IKTBN Mechanical Industrial Workshop. Via the audio recordings recorded that is information regarding various tender management procedures in the past, present and hereafter in the installation activity. The audio recording method is a means to add validity and acceptance on the data compiled. Besides that, regarding the machine maintenance management even if a break down occurs the supervision and the operations of the laboratory are in a safe and tidy state. Among the elements observed at the installation is:

##### **i. Selecting a suitable Tender**

After the discussion and meeting process conducted by IKTBN, the tender shall be opened to the public. Proceedings that, the tender supplying candidate shall be brought to the site concerned and the price given according to the required specification in accordance to the budget predetermined and the items to be purchased. Among the criteria that is often used as a platform to evaluate the profit, as suggested by is the completion of the program, major modification works, work difficulties, quality standard, fixing the price, competitive pricing, responsibility and the apportionment to avoid risk (Turner, 1990).

##### **ii. Determine the materials required**

The requirement of specific equipment or machine should be suitable to the environment, space, level of usage and it must be accurately stated in detail in the particulars by the IKTBN authority. This matter need to be emphasized so that the potential tender acceptor will not err in fulfilling the specification as required by IKTBN. This may perhaps be caused by various internal factors which brings to the low

costing calculation expectation at the planning and designing stage among which is bias, presentation or profit method, changes in the project planning schedule, complex engineering process and construction, inconsistent scope, fragile expectation, slow progressing scope and addition to inconsistent changes (Shane, 2009).

##### **iii. Configuration of equipments and machines**

This part is vital because various factors such as the size, the height, and the function of the machines together with the environment space must be accounted for at the time of configuration at the work space. This is as such, so that the issues of injury and accident factors do not arise. The aspect of equipment management in a workshop found that the knowledge of manager regarding the condition of the equipments including the aspect of the quantity, maintenance, mode of handling and storage to the procedure to record in the books or stock cards are constantly perfect and secure is in full control of the Workshop Manager in the effort to realize a conducive PdP workshop (Asnul & Nurul, 2011).

##### **iv. Machine Maintenance**

If a minor fault occur to the equipment or machine and it fail to function in good order. In the early stage, if it is a minor fault it will be repaired by the officer assigned to laboratory concerned. Subsequently if it still fail to function in good order, the officer shall file a complain to the higher authority. Complaints received shall be scrutinized and processed by the higher authorities. Whenever a decision is received from the higher authorities, maintenance shall be conducted. If otherwise not agreed or short of allocations for maintenance, the machine shall not be repaired and a label "under maintenance" attached to the said machine. Seven steps are found in AM, prior cleanliness, the steps taken for the reason of and the effects of dirt and dust, cleaning and the lubricant standard, general inspection, autonomy inspection, organization and order and the full implementation in AM. These steps shall inculcate the company's culture in its daily maintenance activity. According to the anatomy activity, it can be associated with the continuous improvement features from the aspect of the follow up activity to stress on the continuous effort in enhancing maintenance and quality improvement (Wakjira and Singh, 2012).

##### **2. Observation around the work space area**

At IKTBN, Pagoh includes structure plan planning, security control and in accordance suitable to the workers performing the activities to be more effective. Besides that, it is in a form of integration of the resources process between mankind, materials and equipments found within which consist of machine and safe work area to work on. The facilities and the conducive spaces in the workshop will cause the learning and teaching sessions to proceed orderly and perfect. A quality product generated from the capability of a tool or machine to function orderly besides the workers' skill. For example, when a tool such as a cutting machine is not properly handled, the end product from the cut marks will not be accurate and clean.

Generally, a good and efficient workshop management must be emphasized before focusing on to other areas. A good workshop management will be able to produce a quality product by securing safety measures orderly and be a set example to schools and other institutions. According to Rubai'ie (2015), workshop is a scope that should be emphasized because the management activities will influence the end of work results and give satisfaction to the program applicator for its users. The Safety Management rules should

not only be read or practiced at a certain time. Serious attention must be given to safety at all times and at every moment wherever we may be ( Yusof & Asri, 2012).

### Discussion

**The relationship between the problematic issue of the time consuming the long duration in the procedures and the complication occurring at the time of repairs installations.**

Based on the problematic issue raised, the researcher has conducted the research and produced a summary regarding the root of the problem caused. Firstly the researcher again wish to comment the vital process at the time of selection of the tender base on the Government Procurement Information Centre's installation tender for a learning centre made through an open tender. And this is also base on the researcher's interview method with Mr. Farizan . The flow of the said tender begins with the preparation of the tender documentation, this has also consumed a long period of time because of the specific write up to adhere to every tender regulation more over it involves a government body i.e. the Ministry of Education.

Followed by the technical and financial evaluations which play an important role (Mazahar, 2015) because the government's subsidy for each government body will limit its arrangement and allocation of capital, but at the same time the equipments and the installation procedures need to be conducted in a safe mode and also for the high quality equipments. Thus these procedures need to be wisely planned and guided by an experienced party. The preparation of an accurate and stable presentation in respect of financial, planning of the installation process, also the extras mentioned shall appear as a more attractive, as compared to the other competitors, and as a good input when preparing the tender briefing notes. Overall the above mentioned elements will act as the trump cards at the time of presentation of the tender paper. And following the process of being considered by the client i.e. the Ministry of Education to be executed will also appear as a long process because of the strict and vital pre conditions. These are among the process that caused the consuming of a long period of time during the procedures.

Next, the researcher also wishes to touch on the enigma at the time of installation to repair the damage. According to the researcher's visit findings, the process of tender procedure for repairs is similar to that of the installation but it is more complex because the authority of the institute of learning need to prepare a detail statement regarding the fault, such as the root of the fault, the damage estimates and also the information regarding the fault duly confirmed and certified. The repair installation process is also more cumbersome because the process requires expertise and skill to trace the exact fault as preparation step to seek the replacement for similar spare parts in respect of the brand, the size, the function with top safety features from part to part or in total. This matter could be observed during the researcher's visit to the IKTBN, where the proper assembly criteria plays an important role because of the multiple use of the machines which is of top value and faces high risk as similarly experienced in actual industries. With the research regarding the implementation of the original tender had consumed a long duration of time, what more in this repair process.

In brief, for this connection, the former tender process will be effective to the students to apply their maximum skill in their various institutions (Jumlos 2012). Especially during the complex repair process the institution authority, after a

long spell might forgo the compulsory elements. Thus the highest degree of awareness should be given due concern to yield a better work performance.

### Conclusion

A proper and excellent tender system comes from an organized and systematic management and organization to achieve certain objectives. The laboratories in institutions are vital as it requires an effective management. To the overall interview conducted, the management aspects and the processes for each task is very important so that such a laboratory and the machine requirement in use will move smoothly. From the task of repairing the machine, the institute's authority needs to further expedite their action so that no follow up problems arises. The Lecturer lecturing also play an important role in the installation management to supervise the tools used by the students are safe. If the installation management is conducted together, and pose no problem, it will realize a more conducive and comfortable laboratory. The cooperative attitude among lecturers in handling the laboratory collaboratively will be able to achieve the target of the National Education Philosophy i.e. to generate a balanced generation in respect of physical, emotional, spiritual and intellectual. Moreover, accordingly the brightness of a student is not only measured on his aspect of academic performance but in also in the aspect of human development which is measured by his portrayal in moral and self example (Khailani Abdul Jalil & Ishak Ali Shah, 1993).

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