Managing Small Computer Training Premises: A Case Study on Pusat Komuniti Siber, Jitra

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ABSTRACT

There has been a vast number of training premises set-up and introduced lately for providing community with opportunity to continue learning. This is an advantage not only for their existence but also the fees are affordable even though by local communities. Well-managed training programs by considering the trainees, trainers, apparatus and teaching medium can contribute to the basis of producing K-Workers. A research has been conducted partly using TIER model to investigate whether the computer training program at Pusat Komuniti Siber (PKS), Jitra has been well managed using TIMO model and the results show that the mean after training program is far encouraging than the mean before training. This paper's objectives are to illustrate the training program – how the training is organized – and trainees' perception towards the training program. Other than that, this paper visualizes what is being done at PKS, Jitra.

Key words: Training, TIER, training effectiveness, trainees' perception

1.0 INTRODUCTION

There are a large number of training premises nationwide in Malaysia. Most of them owned privately by individual with good qualifications while the rest are provided by the government. There are cases where graduates do not want to work with any organization or company and graduates not being offered any vacancy set up their own training premises. Out of various fields, Information Technology (IT) is one of the most popular among training premises. IT is seen to be as a huge part of Information and Communication Technology (ICT) where IT can be defined as the technological components of an information system or collection of entire systems in an organization (Turban, Mc-Lean, Wetherbe, Bolloju, & Davison, 2001).

Today it is widely recognized that ICT is essential for society, government and commerce in economic, social, educational, and cultural (Taylor & Marshall, 2003). This phenomenon gives an opportunity for the community to learn more easily.

Small training premises do not cost very much, especially under government projects. Regarding the small training premises, a research has been conducted to investigate the training program's effectiveness. This is the statement of the problem. There is a question to be answered; Is the training program effective? This research is scoped to be on Pusat Komuniti Siber (PKS), Jitra. Only three cohorts took into account for data gathering.

Major part of this study is done using TIER methodology (NIOSH, 1999). There are a large number of researches done using TIER model previously. One of the examples is a research done by Hammell & Kingsley (2000) at United States Coast Guard (USCG) where he used pretest and posttest to generate findings towards the objective; to investigate the effectiveness of the training. Martin (2002) also used the same model to study the effectiveness of training. The study was conducted to examine the sales environment to determine key "need areas". He also says that Northwest Airlines also uses the TIER model for the company towards the same reason. All researches above however did not come out with any training model probably they have already got their own reference model respectively.

The general objective is to investigate whether the management of PKS, Jitra with its training program is successful in terms of producing K-Workers. Druker (1959) defines that a K-worker is anyone who works for a living at the tasks of developing or using knowledge. For example, a K-worker might be someone who works at any of the tasks of planning, acquiring, searching, analyzing, organizing, storing, programming, distributing, marketing, or otherwise contributing to the transformation and commerce of information and those (often the same people) who work at using the knowledge so produced.

Another definition of K-worker is they are people who use knowledge as a significant part of their work responsibilities (Turban et al., 2001). Reflecting to both definitions, K-worker can be defined as an individual or number of people who use knowledge and skills as major tools incorporated by computers to support their responsibilities in accomplishing work description.

More specifically, this paper's objectives are to illustrate the training program – how the training is organized – and trainees' perception towards the training program. The methodology is discussed in the next section. It is followed by the research outcome, contribution and conclusion. We address our acknowledgement after the conclusion.

2.0 METHODOLOGY

To achieve the first objective, observations have to be made thorough the training program. Besides, the observations will also be followed by interviews and document review. The technique to investigate whether the training program is successful is elaborated in the next subsection.

2.1 Techniques For Investigating The Training Program

The technique for investigating the program effectiveness is divided into four major tasks as shown in figure 1[1].

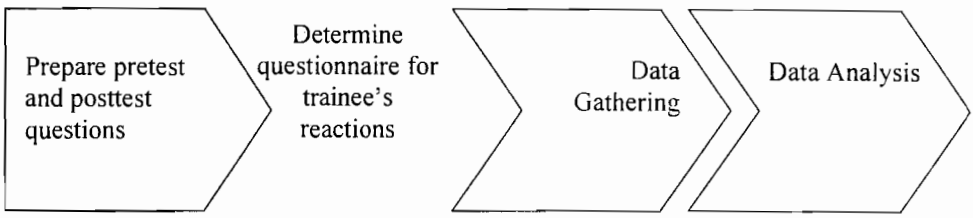

Figure 1: Technique for investigating the program effectiveness

Figure 1 depicts the steps involved in running the investigation at stage three of TIER model. There are four major steps (1) Preparing pretest and posttest questions; (2) Questionnaire for gathering trainee's reactions; (3) Data gathering; and (4) Data analysis. All steps are further described in the following sub sections respectively.

2.1.1 Pretest and Posttest Questions

During this step, the questions for seeing the difference of scores before and after the training are set up. In order to do that, all materials provided by PKS to the trainees were studied to ensure the reliability of the questions. The questions are same for pretest and posttest. As the training includes Ms. Word, Ms. Excel and Ms. Power Point, the questions covered in the tests including all the software. The tests consist of two sections; A – Multiple Choice Questions (MCQ) and B – Hands-on Tasks.

2.1.2 Questionnaire

The tests prepared as mentioned in the previous subsection are used to examine the level of understanding among the trainees. The means between tests are compared and interpreted accordingly. In order to get trainees' reactions upon the training, another instrument is appropriate. A set of questionnaire was used for gathering trainees' reactions. The University Training and Learning Center (UTLC), an institute at Universiti Utara Malaysia (UUM), has developed the questionnaire for the same purpose. UTLC has been using the questionnaire to assess the effectiveness of courses offered in UUM since March 2002. Consequently, the same questionnaire was used in this research with some alteration[2].

[1] Step with bold background is for determining trainees' perception
[2] additional of a few variables for meeting the whole research objectives

2.1.3 Data Gathering

Prior to gather appropriate data, the number of trainees was determined to decide whether to do population study or to do sampling. There were two conditions, (1) if the population is greater than 150, than sampling has to be done, else (2) do population study. After getting information from the staffs attending PKS about the number of trainees involved, the decision could be made to do population study because there were only 123 trainees registered and taking the course. Having prepared with the tests' questions (and managed to touch-up as exam question sheets) and the questionnaire, the schedule for data gathering was set-up. Discussions were made with the staffs at PKS for that particular purpose. A few meetings were made to confirm the data gathering sessions.

There are three slots per day i.e. morning, afternoon and evening (night) with different trainees in each slot. Accordingly there were three slots needed to run pretests. The pretests were conducted on the first day of course where trainees did not learn anything yet from PKS.

Having gone through the course and finished the training, the posttests were conducted. The posttests were also conducted in three slots for the same reason. As mentioned earlier, the questions asked are same with those of pretests. After answering the posttests, trainees were required to answer the questionnaire for gathering their reactions. Altogether, there are three instruments involved in data gathering. Figure 2 illustrates the instruments with the flow.

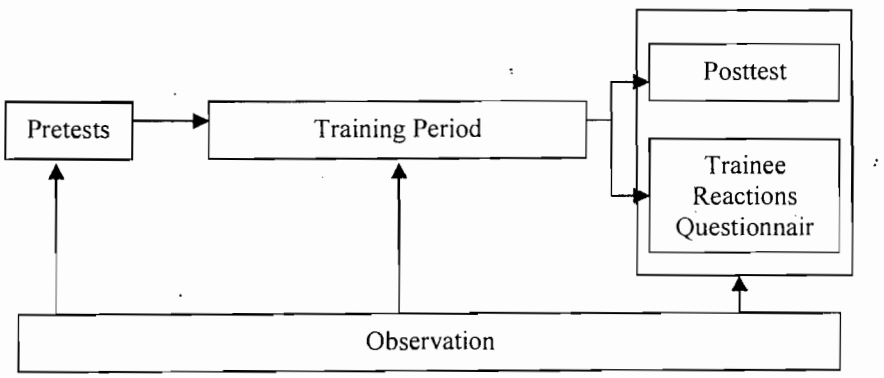

Figure 2: Instruments and the flow of data gathering

The questionnaire consists of three main sections; (1) Demographic background; (2) Trainees computer experience; and (3) Trainees reactions upon the course. Section three itself is further divided into seven subsections; (a) Overall of the Program; (b) Instructor; (c) Delivery; (d) Attention and Utilities; (e) Course Content; (f) Assessment; and (g) Motivation. The questionnaire uses closed questions with likert scales system. This is to simplify the tasks in data analyzing.

2.1.4 Data Analysis

As the data were gathered through pretests, posttests and trainees' reactions questionnaire, there comes the time to analyze the data. As this is a quantitative research, *SPSS* were used to find answers for priory-set questions. Descriptive analysis is the most suitable method for data analysis. The data collected through observations was also taken into considerations, especially in terms of the difference between shown during pretests and posttests. The second objective that is to get feedback about trainees' perceptions on the training program is made via a set of questionnaire. The questionnaire has been elaborated in section 2.1.2.

3.0 THE OUTCOME

The observations were made during classes, catering a few times for all slots. This is aimed to see how the facilities are used and feedbacks from students. Not only that, the observations were also to see how students react towards trainer's teaching. The interviews on the other hand, were done not only during classes, but also not during the classes. The interviews were aimed to ask administrators about the training, consisting who the trainers are, how the modules developed, fee, slots division, time table, and trainees information. Document reviews were done not in specific time. It is actually a step where the modules were reviewed, to see the content, for two reasons; for reviewing purposes and for developing test questions. From the observations, including interviews, a training model has been developed named TIMO (Abdul-Mutalib, Mohamed-Elias & Ahmad, 2004). TIMO model includes all interactions exist in the training program at PKS. Having developed the TIMO, it is then analyzed in terms of the parallelism between TIMO and the essential learning model. Figures 3, 4 and 5 depict the TIMO, Laurillards' conversational framework[3] identifying the activities necessary to complete the learning process (Laurillard), and the essential teaching-learning framework respectively (Laurillard, 1994).

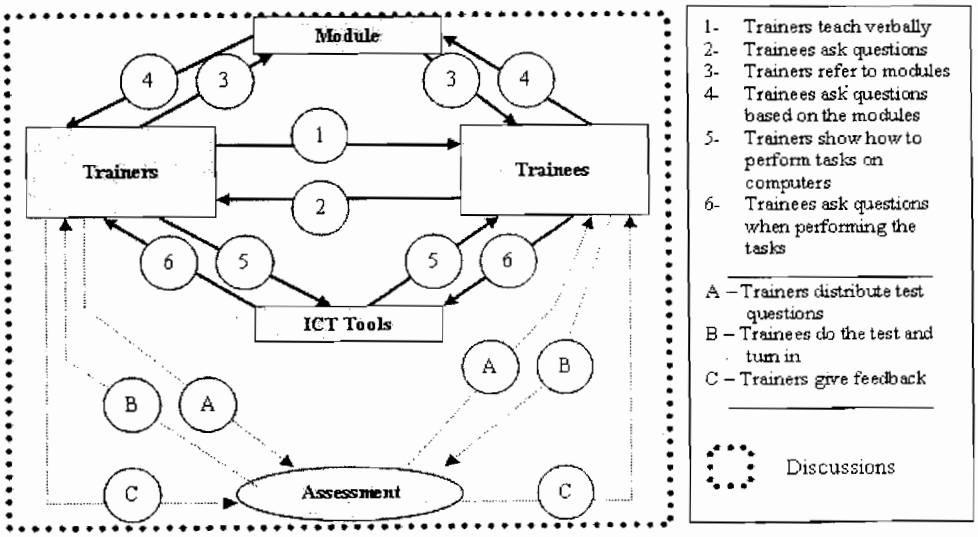

Figure 3: TIMO model

[3] A well-known conversational model for teaching-learning activities.

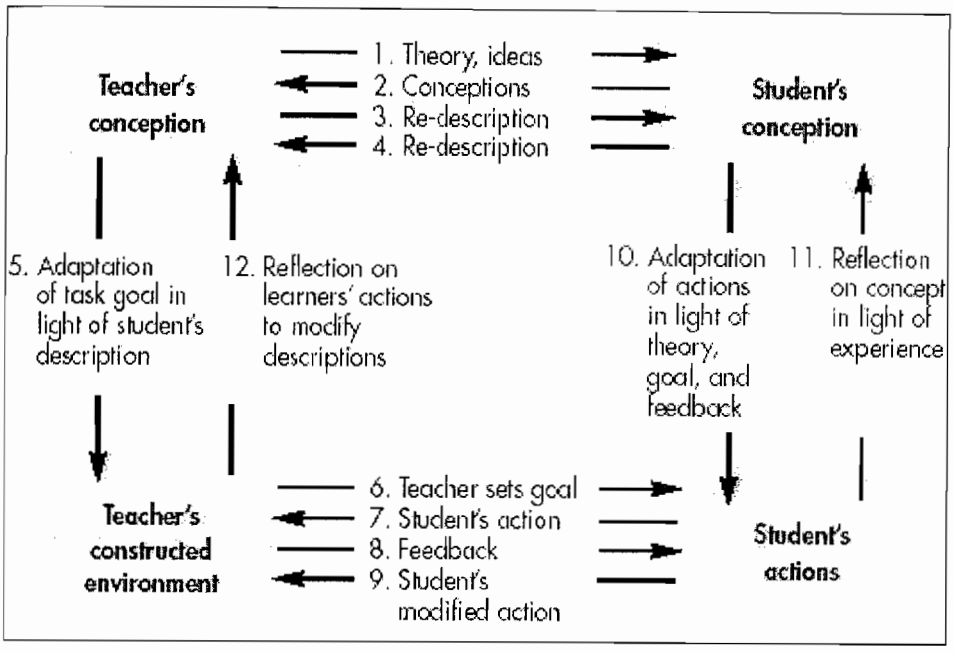

Figure 4: The conversational framework identifying the activities necessary to complete the learning process.

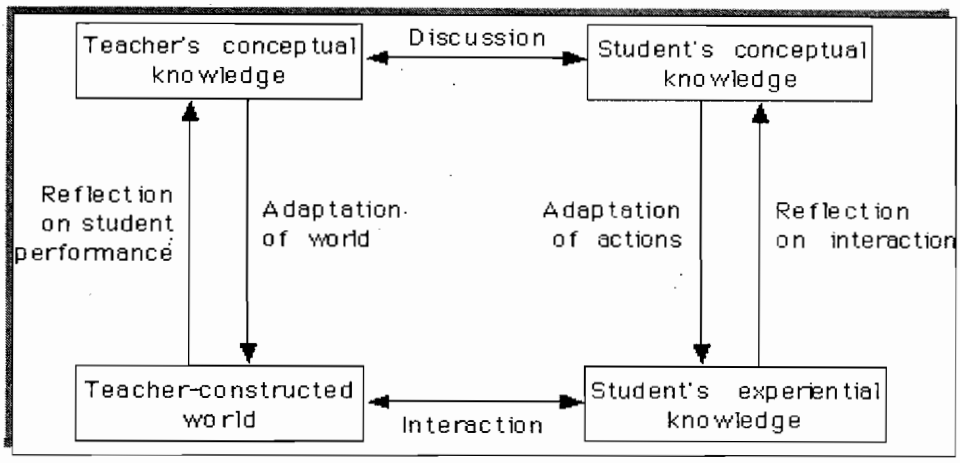

Figure 5: Essential Aspects of Teaching-Learning Process

By analyzing both TIMO model (figure 3) and conversational framework (figure 4), it is seen that all interactions within the conversational framework are catered in TIMO model. The difference is TIMO model includes the element of ICT Tools to assists trainers while delivering contents. It shows that ICT Tools is essential to the process of teaching-learning computer programs. Besides the interactions within/during the classes, TIMO model also caters the environment as elaborated in section 3.1.

3.1 How The Training Is Organized?

The modules were given to each trainee for all courses at the beginning of each course. The content of each module has been reviewed (just for the research purpose), and found that it covers what it should cover as outlined by the researchers in prior. On the other hand, PKS hire lecturers from Universiti Utara Malaysia (UUM), Institut Perguruan Darul Aman (IPDA) and a few other higher education institutions to be the trainers. In short, the trainers are well verse in the area of teaching with some experience.

There were 27 male and 96 female trainees involved as respondents. As shown in Table 1, from 123 respondents, seven (6%) of them were below 17 years old. They were primary and secondary school children, sent to take the course by their parents and of self-encouragement. As the majority, youths between ages 18 to 21 years were 74 (60%).

Table 1: Number of trainees for each age group

Age	Frequency	Percentage
Below 17	7	5.7%
18 – 21	74	60.2%
22 – 25	19	15.4%
26 and above	23	18.7%
Total	123	100%

They were mostly freshly finished school i.e. after finished completing *Sijil Pelajaran Malaysia* (SPM)[4] and still waiting for the result; they want to prepare for their next level of education. 19 (15%) trainees were between 22 to 25 years old. While the rest 23 (19%) were 26 years and above. These trainees were working people in various fields including government and private sector, taking the course for implementing in the workplace. From the trainees' demography, they were then formed into three different slots according to their own convenience. Basically, working people would choose to do at night, as well as students. Youths between 18 through 25 mostly choose to do during the day, morning and afternoon. At PKS Jitra, students are allowed and encouraged to discuss and interact with the trainers as in the teaching-learning aspects (figure 3). Trainees and trainers play as collaborators in the training program at PKS Jitra.

As the training is run such the way (as visualized in TIMO model), it has to be tested to investigate the effectiveness of the training program. The methodology of the investigation is as in the next subsection.

3.2 Results From Pretest And Posttest

In order to investigate the training effectiveness, pretest and posttest were used. Results for pretest and posttest were taken for analysis purposes. Table 2 shows the results for pretest and Table 3 shows the results for posttest.

[4] Malaysian Certificate Education – the highest certification level at the secondary school for Malaysia.

Table 2: Pretest results

Grades	Frequency	Percentages
A	0	0%
B	0	0%
C	4	3%
D	119	97%
Total	**123**	**100%**

Table 3: Posttest results

Grades	Frequency	Percentages
A	27	22%
B	40	33%
C	56	46%
D	0	0%
Total	**123**	**100%**

From Table 2 and Table 3, it can be considered that the training model applied at PKS is successful in terms of producing K-workers. Trainees' reaction is taken into account for getting their feedback about the training premises and TIMO.

3.3 Trainees' Perception on The Training Program.

Besides the means for pretest and posttest, another aspect that shows the training program's effectiveness is trainees' perception. The way to gather the perception is by questionnaire[5]. The questionnaires were distributed during the posttest session. The elaboration on the results is as follows. Table 4 shows the number of trainees with respective means for the feedback about the overall program.

Table 4: Number of trainees with respective means for feedback on the overall program

Description	Means	Frequency	Percentage
Strongly agree	4.01 - 5	73	59.3
Agree	3.01 - 4	49	39.8
Not sure	2.01 - 3	1	0.8
Disagree	1.01 - 2	0	0.0
Strongly disagree	0 - 1	0	0.0
Total		**123**	**100.0**

From Table 4, we can see that 59.3% of the trainees say that the means for overall program are within 4.01 to 5. There are 39.8% of the trainees say that the means for overall program are within 3.01 to 4 while only 0.8% say that the means for overall

[5] All questions consisted in the questionnaire are in positive form, so the higher the mean, the better the interpretation should be on specified aspect.

program are within 2.01 to 3 while nobody say the means are less than 2.01. From the statistics, we can say that majority of the trainees satisfied with the overall program.

One of the main contributions to the program efficiency and effectiveness is the trainers. Table 5 shows the number of trainees and percentages with respective means for the feedback about the trainers.

Table 5: Number of trainees with respective means for feedback about the trainers

Description	Means	Frequency	Percentage
Strongly agree	4.01 - 5	72	58.5
Agree	3.01 - 4	51	41.5
Not sure	2.01 - 3	0	0.0
Disagree	1.01 - 2	0	0.0
Strongly disagree	0 - 1	0	0.0
Total		**123**	**100.0**

From Table 5, we can see that 58.5% of the trainees say that the means for the trainers are within 4.01 to 5 and 41.5% of the trainees say that the means for the trainers fall within 3.01 to 4. There was no trainee saying mean below 3.01 for the trainers. It can be concluded that the trainers at Pusat Komuniti Siber (PKS) Jitra are performing at trainees' expectation level. Other than trainers, the teaching support or environment is also important to contribute to efficiency and effectiveness. The results of the test are shown in Table 6.

Table 6: Number of trainees with respective means for feedback about the teaching supports and environments

Description	Means	Frequency	Percentage
Strongly agree	4.01 - 5	46	37.4
Agree	3.01 - 4	70	56.9
Not sure	2.01 - 3	7	5.7
Disagree	1.01 - 2	0	0.0
Strongly disagree	0 - 1	0	0.0
Total		**123**	**100.0**

From Table 6, we can see that 37.4% of the trainees say that the means for learning supports and environments are within 4.01 to 5, 56.9% of the trainees say that the means are within 3.01 to 4 while 5.7% say that the means are within 2.01 to 3. There was no trainee saying that the means are below than 2.01. Based on the statistics, we can conclude that the learning supports and environments at Pusat Komuniti Siber (PKS) Jitra help the trainees to perform well during the program. Another criterion to be tested is services and facilities provided within the premise and by the trainers when delivering the content. Table 7 shows the results.

Table 7: Number of trainees with respective means for feedback about the services and facilities

Description	Means	Frequency	Percentage
Strongly agree	4.01 - 5	38	30.9
Agree	3.01 - 4	80	65.0
Not sure	2.01 - 3	5	4.1
Disagree	1.01 - 2	0	0.0
Strongly disagree	0 - 1	0	0.0
Total		**123**	**100.0**

From Table 7 we can see that 30.9% of the trainees say that the means for services and facilities fall within 4.01 to 5, 65.0% of the trainees say that the means are within 3.01 to 4 and 4.1% of the trainees say that the means are within 2.01 to 3 while there is no trainee saying that the mean is below than 2.01. From the statistics, it could be said that the services and facilities provided at Pusat Komuniti Siber (PKS) Jitra and the trainers are enough. The next criterion is course content. Course content is developed obviously to suit the target trainees where the trainees are varies from students to working people even retired people. The results of the test are shown in Table 8.

Table 8: Number of trainees with respective means for feedback about the course content

Description	Means	Frequency	Percentage
Strongly agree	4.01 - 5	49	39.8
Agree	3.01 - 4	70	56.9
Not sure	2.01 - 3	3	2.4
Disagree	1.01 - 2	1	0.8
Strongly disagree	0 - 1	0	0.0
Total		**123**	**100.0**

From Table 8 we can see that there are 39.8% trainees say that the means for course content fall between 4.01 to 5, 56.9% trainees say that the means are within 3.01 to 4 and 2.4% trainees say that the means are within 2.01 to 3. There is one trainee or 0.8% says he or she disagrees with the course content. From the statistic, we can still say that the course content is suitable for the target trainees. The following criterion is assessments given to the trainees during the course. All assessments were provided and evaluated whether by the trainers or by the training premise i.e. Pusat Komuniti Jitra. The results of the test are shown in Table 9.

Table 9: Number of trainees with respective means for feedback about the assessment

Description	Means	Frequency	Percentage
Strongly agree	4.01 - 5	57	46.3
Agree	3.01 - 4	65	52.8
Not sure	2.01 - 3	1	0.8
Disagree	1.01 - 2	0	0.0
Strongly disagree	0 - 1	0	0.0
Total		**123**	**100.0**

From Table 9, we can see that there are 46.3% trainees say that the means for assessment are within 4.01 to 5, 52.8% trainees say that means are within 3.01 to 4 and 0.8% trainees say that means are within 2.01 to 3. There is no trainee saying the means for assessment is below than 2.01. From the statistics, we can conclude that the assessment practiced at Pusat Komuniti Siber (PKS) Jitra is acceptable by the trainees.

Besides all the criteria, the advice from the trainees is also tested to investigate their perceptions and recommendations for other prospective trainees. The results of the test are shown in Table 10.

Table 10: Number of trainees with respective means for feedback about the advice

Description	Means	Frequency	Percentage
Strongly agree	4.01 - 5	89	72.4
Agree	3.01 - 4	30	24.4
Not sure	2.01 - 3	3	2.4
Disagree	1.01 - 2	1	0.8
Strongly disagree	0 - 1	0	0.0
Total		**123**	**100.0**

From Table 10, we can see that there are 72.4% trainees give means for advice within 4.01 to 5, 24.4% trainees give means within 3.01 to 4 and 2.4% trainees give means within 2.01 to 3 while only one person or 0.8% give means within 1.01 to 2. No trainee gave mean below than 1.01. From the statistics, we can conclude that there are more than 90% of the trainees would recommend the premise i.e. Pusat Komuniti Siber (PKS) Jitra for doing training on computer courses.

4.0 CONTRIBUTION

This research has proven that a small training centre with the combination of some aspects; trainers, modules, facilities and good timetables as well as trainees division can result in potential K-workers. This has been shown through the means difference between pretest and posttest. Besides, it contributes TIMO model to the body of knowledge. Another consideration is trainees' perception is all very encouraging for other training premises to adopt PKS' training model.

5.0 CONCLUSION

Having investigated the pretest and posttest results, together with the trainees' perception towards the training program, it can be concluded that the training program is successful in terms of producing potential K-Workers. Furthermore, TIMO model that is used at PKS also contain all interactions as outlined by (Laurillard).

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