PREPARATION OF USING INFORMATION COMMUNICATION AND TECHNOLOGY IN TEACHING AND LEARNING AMONG THE TECHINICAL TEACHERS IN TECHNIQUE SCHOOL

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ABSTRACT: The aim of this study was to identify the preparation of using Information Communication and Technology (ICT) in teaching and learning from aspects of knowledge, skills, attitude and confidence among the technical teachers of technique schools in Johore, Malacca and Negeri Sembilan. A total of 92 teachers from nine technical schools in three states were randomly selecting (cluster over cluster method) in this study. The findings showed that the preparation of Technical teachers' knowledge, skills, attitude and confidence in using Information Communication and Technology in teaching and learning was at high level. The findings also showed that the level of preparation have significant difference with frequency in using computer and computer ownership.

INTRODUCTION

Nowadays, new generation face the challenges and influences of Information Communication and Technology (ICT). As Malaysia Government (1999) point out, Information Communication and Technology explosion and globalizing challenges which get along more conspicuous and it should manage by judicious and increase the awareness of risk that bring. This is because Information Communication and Technology development already make a change in human work, communication and their thinking (Ding, 1998). Education Development 2001-2010 (2001) also believe that using Information Communication and Technology potential to bring Malaysia's education system toward international level. Now, whatever the Malaysian resident appreciate it or not, but the reality Information Communication and Technology particular period already start long time ago.

Information Communication and Technology can be recognize as a combination of one set technology especially micro electronic computer and communication technology which help in collecting, saving, processing, sending and presentation data or information through various media such as image, graphic, video, audio and texts (Hamidah Baba, 2000). In addition, Information Communication and Technology also as an agent of great positive changing until it influence all aspect in various sectors like sector of education, industry, business, medical, agriculture and others (Abdul Razak *et al.*, 2004).

Intelligent in Information Communication and Technology of insistence for every body in the future (Abu Bakar, 2000). With this, principles of education country always have been study and the education curriculums to upgrade education quality and make sure it was effectiveness in execute to face the challenges of Information Communication and Technology. This can see from the program which organize by Ministry of Education Malaysia such as smart school, computer in education, program teaching and learning Science and Mathematic in English, Malaysian Great For Learning (Eleventh Parliament Report, 2005).

As Education Development 2001-2020 (2001) point out, program training in service for teachers in Information Communication and Technology field also execute by Ministry of Education Malaysia such as smart school teacher training, computer education fourteen weeks in service course and basic compute literacy and others. Until year of 2000, almost 60,000 teachers already take the training program. In this situation, teacher suppose should effort using Information Communication and Technology in teaching and learning or in education management. While since 1996 until 2000, only have 30 percent out of all teachers just have training in Information Communication and Technology and only small amount of teachers out of that percentage can integration Information Communication and Technology in teaching and learning. Besides from that small amount of teachers, only have knowledge and skills to develop course software (Education Development 2001-2010, 2001).

In addition, still got many teachers lack effort in using Information Communication and Technology in teaching and learning. They also not expert using Information Communication and Technology in teaching design and lack skills of selecting, evaluating and using course software based on student needs (Education Development 2001-2010). As Gan (2000) point out among 280 thousands teachers who in service, lots of teacher just mastering basic knowledge and skills in Information Communication and Technology when they studied in university.

Besides, failure mastering Information Communication and Technology field already defined as root of pressure which face by many teachers who teach Science and Mathematics subject in English (Rohani, 2003). Findings of the Mazyla's (2004) study also showed that skill in using Information Communication and Technology among technical teachers were in moderate level. In addition, appear negative attitude towards Information Communication and Technology among teachers especially teachers who teach Science and Mathematics and followed by language teachers (Williams *et al.*, 1998). Most of teachers seldom using Information Communication and Technology because they not confidence using it (Cox *et al.*, 2003).

Because of this, researcher comment that its important to define the preparation level of technical teachers in technique school towards using Information Communication and Technology in teaching and learning from aspect of knowledge, skills, attitude and confidence.

Aspect of Knowledge in Information Communication and Technology

Khairul 'Azmi Mohamad (2000) comment, mastering Information Communication and Technology knowledge already became insistence in the future. Individual who defined knowledgeable in computer if that person have positive attitude and responsible in using computer; effort to evaluate, elect and using various computer application; can using hardware and software which appropriate with computer application; and expert in computer operating through the programming (Simonson *et al.*, 1987).

Aspect of Knowledge in Information Communication and Technology

Technology development moving quickly make happen knowledge and skills in Information Communication and Technology increase important to fulfill the work market need s and industry which need the workers who expert in using Information Communication and Technology. Effectiveness using Information Communication and Technology in some matter always related to skills of Information Communication and Technology in that person.

Aspect of Attitude towards Using Information Communication and Technology in Teaching and Learning

Attitude was important element in education field. Teachers who have positive attitude can make teaching and learning process more effective. This is because they can actuate students learning in the class. As Zulkifli and Raja Maznah (1994) comment, positive attitude was essential to actuate someone to learn something. If the teachers have negative attitude towards using Information Communication and Technology in teaching and learning, it will become barrier to teaching and learning process.

Aspect of Confidence towards Using Information Communication and Technology in Teaching and Learning

As Tom (1999) point out, self confidence was expecting which may be will achieve by someone in certain situation. Positive attitude and self confidence as a basic support need to achieve objective (Robiah *et al.*, 2003). As Fitzallen (2005) comment, confidence of the teachers also will influence them in using Information Communication and Technology in teaching and learning.

Hence, this study done for purpose to define preparation of using Information Communication and Technology in teaching and learning from aspect of knowledge, skills, attitude and confidence among technical teachers of technique school in Johore, Malacca and Negeri Sembilan.

METHODOLOGY

This study was descriptive study to get quantitative data which related with preparation of using Information Communication and Technology in teaching and learning. The sample in this study was 92 technical teachers from nine technique school in state of Johore, Malacca and Negeri Sembilan. Instrument of the study was modified inventory from Information Technology Knowledge and Skills Diagnostic Tool (2003) and Computer Attitude Scale. Pilot test have been done to determine consistency of questionnaire. After analysis, the Alpha Cronbach of the questionnaire was 0.9885.

FINDING STUDY

Analysis Preparation of Respondent towards Using Information Communication and Technology in Teaching and Learning

Analysis finding the preparation of using Information Communication and Technology in teaching and learning will categories as below.

Score Mean	Preparation Level
1.00 – 2.33	Low
2.34 – 3.66	Moderate
3.67 – 5.00	High

a. Analysis Aspect of Knowledge in Information Communication and Technology

Figure 1: Level of Respondent's Knowledge in Information Communication and Technology

Knowledge Level in Information Communication and Technology	Number	Percent
Low	8	8.7
Moderate	48	52.2
High	36	39.1
Total	**92**	**100**

Figure 1 showed that the level of respondent's knowledge in Information Communication and Technology. Have 48 respondents (52.2 percent) been at moderate level, 36 respondents (39.1 percent) were at high level. There was only 8 respondents (8.7 percent) were at low level.

b. Analysis Aspect of Mastering Skills in Information Communication and Technology

Figure 2: Level of Respondent's Skills in Information Communication and Technology

Mastering Skills Level in Information Communication and Technology	Number	Percent
Low	15	16.3
Moderate	41	44.6
High	36	39.1
Total	**92**	**100**

Figure 2 showed that the level of respondent's skills in Information Communication and Technology. 41 respondents (44.6 percent) were at moderate level and 36 respondents (39.1 percent) were at high level. While, there were 15 respondents (16.7 percent) at low level.

c. Analysis Aspect of Attitude towards Using Information Communication and Technology in Teaching and Learning

Figure 3: Level of Respondent's Attitude towards Using Information Communication and Technology in Teaching and Learning

Attitude towards Using Information Communication and Technology in Teaching and Learning	Number	Percent
Low	1	1.1
Moderate	12	13.0
High	79	85.9
Total	**92**	**100**

Figure 3 showed that the level of respondent's attitude towards using Information Communication and Technology in teaching and learning. Numbers of respondent at high

level were 79 (85.9 percent). Followed by 12 respondents (13.0 percent) were at moderate level and only 1 respondent (1.1 percent) was at low level. Analysis showed that majority respondents at high level, that means they have positive attitude towards using Information Communication and Technology in teaching and learning.

d. Analysis Aspect of Confidence towards Using Information Communication and Technology in Teaching and Learning

Figure 4: Level of Respondent's Confidence towards Using Information Communication and Technology in Teaching and Learning

Confidence towards Using Information Communication and Technology in Teaching and Learning	Number	Percent
Low	4	4.3
Moderate	24	26.1
High	64	69.6
Total	**92**	**100**

Figure 4 showed that the level of respondent's confidence towards using Information Communication and Technology in teaching and learning. Respondent at high level were 64 persons (69.6 percent). Followed by 24 respondents (26.1 percent) were at moderate level and only 4 respondents (4.3 percent) were at low level. Analysis showed that majority respondents at high level, that means they have high confidence towards using Information Communication and Technology in teaching and learning.

e. Analysis Preparation Level of Using Information Communication and Technology in Teaching and Learning

Figure 5: Respondent's Preparation Level of Using Information Communication and Technology in Teaching and Learning

No.	ASPECT	MEAN	LEVEL
1.	Knowledge	3.5039	Moderate
2.	Skills	3.3681	Moderate
3.	Attitude	4.1431	High
4.	Confidence	3.8820	High

Overall Score Mean = 3.7243 Preparation Level = High

Figure 5 showed that the respondent's preparation level using Information Communication and Technology in teaching and learning. The most dominant aspect was attitude where the mean was 4.1431. These were followed by aspect confidence (3.8820), knowledge (3.5039) and skills (3.3681). Overall, analysis showed that preparation level of using Information Communication and Technology was at high level where the overall score mean was 3.7243.

Analysis Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Demography

Figure 6: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Gender (n =92)

	No.	Mean	SD	df	t	Significant
Male	51	3.7686	0.58265	90	0.788	0.432
Female	41	3.6692	0.62372			

* Significant at the .05 level

Figure 6 showed that no significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's gender. Values mean for male respondents were 3.7686, while for female respondents were 3.6692. Finding of the study also showed that value t was 0.788 and value significant was 0.432 which more than 0.05. Hence, this hypothesis noel was accepted.

Figure 7: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Age (n =92)

	df	Mean	F	Significant
Between Groups	26	0.310	0.816	0.712
Within Groups	65	0.380		

* Significant at the .05 level

Figure 7 showed that no significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's age where the value significant was 0.712 which more than 0.05. Hence, this hypothesis noel was accepted. Value mean for between groups was 0.310 and value mean for within groups was 0.380.

Figure 8: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Highest Academic Qualification

(n =92)

	df	Mean	F	Significant
Between Groups	2	0.390	1.085	0.342
Within Groups	89	0.359		

* Significant at the .05 level

Figure 8 showed that value mean for between groups was 0.390 and value mean for within groups was 0.359. Finding of the study also showed that no significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's highest academic qualification where the value significant was 0.342 which more than 0.05. Hence, this hypothesis noel was accepted.

Figure 9: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Stream

(n =92)

	df	Mean	F	Significant
Between Groups	2	0.223	0.614	0.544
Within Groups	89	0.363		

* Significant at the .05 level

Figure 9 showed that no significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's stream where the value significant was 0.544 which more than 0.05. Hence, this hypothesis noel was accepted. Value mean for between groups was 0.223 and value mean for within groups was 0.363.

Figure 10: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Experience in Using Computer

(n =92)

	df	Mean	F	Significant
Between Groups	15	0.547	1.694	0.070
Within Groups	76	0.323		

* Significant at the .05 level

Figure 10 showed that value mean for between groups was 0.547 and value mean for within groups was 0.323. Finding of the study also showed that no significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's experience in using computer where the value significant was 0.070 which more than 0.05. Hence, this hypothesis noel was accepted.

Figure 11: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Frequency in Using Computer

(n =92)

	df	Mean	F	Significant
Between Groups	7	1.122	3.786	0.001
Within Groups	84	0.296		

* Significant at the .05 level

Figure 11 showed that have significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's frequency in using computer where the value significant was 0.001 which less than 0.05. Hence, this hypothesis noel was rejected. Value mean for between groups was 1.122 and value mean for within groups was 0.296.

Figure 12: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Participating Information Communication and Technology Course

(n =92)

	No.	Mean	SD	df	t	Significant
Yes	56	3.7985	0.57879	90	1.490	0.140
No	36	3.6088	0.62212			

* Significant at the .05 level

Figure 12 showed that no significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's participating Information Communication and Technology course. Finding of the study also showed that value t was 1.490 and value significant was 0.140 which more than 0.05. Hence, this hypothesis noel was accepted.

Figure 13: Difference Preparation Level of Using Information Communication and Technology in Teaching and Learning with Respondent's Computer Ownership

(n =92)

	No.	Mean	SD	df	t	Significant
Yes	84	3.7897	0.54376	90	3.608	0.001

No	8	3.0369	0.76341			

* Significant at the .05 level

Figure 13 showed that have significant difference among the preparation level of using Information Communication and Technology in Teaching and Learning with respondent's computer ownership because value significant was 0.001 which less than 0.05. Hence, this hypothesis noel was rejected. Finding of the study also showed that value t was 3.608.

DISCUSSION

The finding of this study showed that respondent only at moderate level in mastering knowledge and skills of Information Communication and Technology. Respondent's Information Communication and Technology knowledge and skills were same in level because both the aspects were related each other. It can prove by the mean of each aspect. In aspect of attitude towards using Information Communication and Technology in teaching and learning founded that respondents have positive attitude. Respondents also have high level in confidence towards using Information Communication and Technology in teaching and learning.

Even though knowledge and skills in Information Communication and Technology of the respondents in moderate level but it can improve through education programmed or training in the future. This is because positive attitude and confidence were the aspect which can influence preparation of individual towards using Information Communication and Technology in teaching and learning. Overall, the preparation of technical teachers towards using Information Communication and Technology in teaching and learning was at high level.

The findings of this study also showed that the preparation level of using Information Communication and Technology in teaching and learning have significant difference with frequency in using computer and computer ownership. Whenever, there were no significant difference among the level of preparation with respondent's gender, age, highest academic qualification, stream, experience in using computer and participating Information Communication and Technology course.

CONCLUSION

The finding of this study showed that respondents have high level in preparation of using Information Communication and Technology in teaching and learning. In opinion of researcher, it was normal for the technical teachers that should have high level in preparation. This is because teachers were the main media in planning teaching and learning activities with using Information Communication and Technology to improve effectiveness of teaching and learning process. Hence, teachers should always prepare themselves to integrate Information Communication and Technology in teaching and

learning to make their students intelligent in Information Communication and Technology.

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