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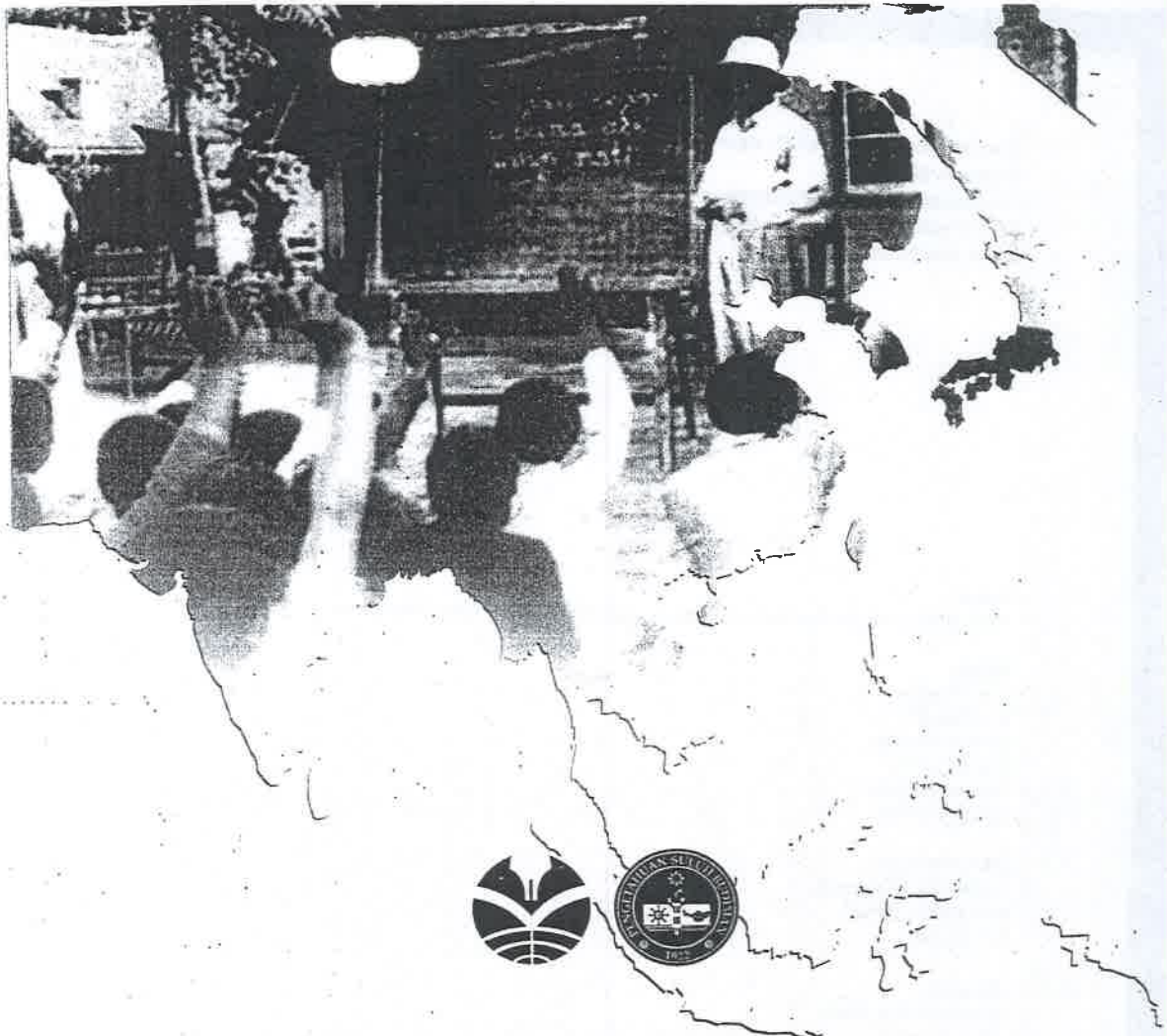

Peningkatan Kualitas Pendidikan Guru Menuju *Asian Qualification Framework*

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Pre service teachers' attitudes and perceptions towards information and communication technology "ICT" using in teaching

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Introduction

The integration of Information and Communications Technology (ICT) in classrooms has been a challenge for the educational systems of all countries which aim to be ready to cope with the needs and the demands of the 21st century (Kyriakidou, Chrisostomou, & Banks, 1999). The Malaysian Ministry of Education (MOE) has introduced various initiatives to facilitate the adoption and diffusion of Information and Communication Technology (ICT). In line with the Vision 2020, Ministry of Education has draft ways to integrate ICT into the education system. The Malaysian government has invested millions of Ringgit for the usage of ICT in education(Rashid, 2011).

Pre-service teachers are supposed to acquire the skills and knowledge necessary for ICT use in the learning processes and to use them for such different purposes as professional development, both in their pre-service education period and in their professional life(Yapici & Hevedanli, 2012).Teacher learning should prepare teachers not only for any kind of ICT integration, but should equip teachers for 'best practices' in ICT integration that contribute to improving existing teaching practice to achieve the goals of school reform (Ertmer & Ottenbreit-Leftwich, 2009)

Theoretical Background

The term "Information and Communication Technologies"refer to transferring, storing, revealing and sharing technology or accessing information. Information and communication technologies include radio, television, video, DVD, mobile phone, satellite systems, computer and network equipment and software as well as the equipment and services provided by these technologies (such as video-conference and electronic mail)(Yapici & Hevedanli, 2012).

move toward student-centred instructional practices, and this in turn suggests a shift in teachers' beliefs as teachers experience new patterns of teaching and learning.

It is believed that if teachers perceived technology programs as neither fulfilling their own needs nor their students' needs, it is likely that they will not integrate the technology into teaching and learning. Evidence suggests that teachers' attitudes and beliefs influence the successful integration of ICT into teaching. If teachers' attitudes are positive toward the use of educational technology, then they can easily provide useful insight about the adoption and integration of ICT into teaching and learning processes(Buabeng-Andoh, 2012).

Ideally, teachers should be very receptive toward the implementation of ICT in education. Effective use of ICT enriches teaching and learning. With a large investment in the ICT infrastructure, and increased emphasis on the use of ICT in teaching, teachers are expected to be competent and effective in utilizing these tools(Lau & Sim, 2008).

Purpose of The Study

The success of student learning with ICT will depend largely on the attitudes of teachers, and their willingness to embrace the technology. Teachers' attitudes and perceptions towards ICT is a very important factor that educators ought to consider in implementing ICT in education (Kyriakidou et al., 1999) and it is a major predictor for future ICT use in the classroom (Teo, 2008). Therefore, it is crucial, particularly for pre-service teachers hold positive attitudes and good correct perceptionsthat help them to be confident in using ICT effectively in their teaching.

Therefore, the major purpose of this study is to examine pre-service teachers' ICT attitudes and perceptions towards using ICT in teaching and learning. The research questions are:

1. What are pre-service teachers' attitudes toward ICT application in instruction?
2. What are pre-service teachers' beliefs, ideas or perceptions about the role of ICT in education?
3. Are there any differences in pre-service teachers' attitudes across their gender?

Research Method

1. Research design

This research is a descriptive in nature; its key purpose is a description of the state of affairs, as it exists at present. Surveys are concerned with describing, recording, analyzing and interpreting conditions that either exist or existed (Kothari, 2004).

2. Research Sample

The research sample consist of 130 students who studying at eight different faculties in UniversitiPendidikan Sultan Idris-Malaysia (University Education Sultan Idris in Malaysia) in the academic year of 2013-2014.The male students form 13.85% of the sample while the female students form 86.15%.

3. The Instrument

In order to investigate the pre-service teachers perceptions and attitudes towards ICT in education, the researcher adapted this research instrument for(Jimoyiannis & Komis, 2006)survey for teachers' attitudes and beliefs about ICT in education and fromMehra and Far (2013)"Information and Communication Technology Attitudes Questionnaire-IAQ". The adapted questionnairewas a Likert-type scale containing 28 items that presented statements of perceptions and attitudes toward ICT was used as a data collection tool. Every item in the questionnaire is 5 Likert scale. Likert scale question comprised five points ranking following: "strongly agree" (5 points), "agree" (4 points), "neutral" (3 points), "disagree" (2 points), "strongly disagree" (1 point). Several questions were constructed negatively. The evaluation of them was in reverse order. The scale consists of twodimensions, namelyattitudes towards ICT in instruction (12 items) and perceptions/beliefs about the role of ICT in education (16 items).

Since the instrument originally developed in Western culture and have not been used in the Malaysian cultural background before. Therefore, the researcher retest the reliability using a sample of (33) students. The results of Split-half reliability test and Cronbach's Alpha internal consistency coefficient for the sub-categories indicate that:

1. Attitudes towards ICT in instruction: Split-half reliability test of 0.757 and Cronbach's alpha of 0.83.
2. Beliefs about the role of ICT in education: Split-half reliability test of 0.969 and Cronbach's alpha of 0.90.
3. This means that the instrument has a good reliability and can be used to

	Mean	Std.Dev.
4. I believe that, because of ICT, teachers' role will be radically changed within next years	3.87	0.76
5. I believe that books' preferential role in education will be replaced by new ICT based media	3.60	1.00
6. I believe that ICT improves the quality of education.	3.43	1.21
7. I think that all the teachers should be continuously informed about ICT.	3.73	0.94
8. I think that the usage of ICT restricts the creativity of the students.	3.32*	1.01
9. I believe that ICT cannot be a substitute for most of the emotional aspects of teaching and learning.	3.65	0.84
10. I believe that ICT can increase collaboration (co-operation) between students.	3.58	0.82
11. 1I believe that using ICT as an instructional tool, increases student motivation.	3.88	0.84
12. 1I believe that ICT can help the teacher to apply differentiate among the students.	3.54	0.90
13. I believe that ICT is useful in dissemination of information.	4.09	0.64
14. I believe that ICT gives opportunity to learn more.	3.96	0.80
15. I believe that ICT use will change the way students learn in my classes.	3.62	1.01
16. I believe that ICT will create more jobs than they eliminate.	3.99	0.82
Pre-service Teachers' beliefs	3.75	0.41

The results in table 2 show that the pre-service teachers have good and positive perceptions about ICT application in instruction (M = 3.75, SD = 0.41) with mean percent (75%). The top three items(ICT could be a tool for teaching and learning for all subject matters in the Curriculum, I believe that ICT is useful in dissemination of information, I believe that ICT will create more jobs than they eliminate) gaineda mean score of 4 or more. This positive perception has been supported by the item (I think that the usage of ICT restricts the creativity) that gained the low average (M = 3.32, SD = 1.01).

Those results indicate that the sample believesabout the importance of using ICT in education and they assert the usefulness of applying it in the teaching and learning process.

3. Are there any differences in pre-service teachers' attitudes across their gender?

Considering the different attitudes and perceptions between pre-service male and female teachers, the researcher used t-test for independent samples, the results included in table 3.

Table 3 Results of independent sample T-Test between Males and Females

	Mean		Std.Dev.		t-value	df	p
	Female	Male	Female	Male			
attitude	3.682	3.588	0.367	0.356	1.017	128	0.311
perception	3.733	3.858	0.396	0.482	-1.200	128	0.232

Regarding the pre-service teachers' attitudes towards ICT in education; the results in table (3) show that female pre-service teachers had higher positive attitudes (M = 3.682, SD = 0.367) than did males (M = 3.588, SD = 0.356), but this difference was not significant (t(128)= 1.017, p = 0.311).

Otherwise, the results in table (3) show that males pre-service teachers' perceptions toward ICT higher (M = 3.858, SD = 0.482) than females' perceptions (M = 3.733, SD = 0.396), but this difference was not significant, t(128) = 1.2, p = 0.232.

CONCLUSION AND DISCUSSION

The results indicate that; pre-service teachers have positive attitudes and perceptions towards ICT using in teaching;although their attitudes do not differ regarding gender.The results aligned with the results of the majority of previous studies(Chai et al., 2009; Fu, 2013; Judson, 2006; Teo, 2008, 2009)thatthe majority of pre-service teachers have positive attitudes towards computers for personal use and they believe that the computer is useful both to their future work and for personal tasks.

In line with these findings, the following suggestions could be put forward:

- Determining students' ICT attitude and perception levels could increase the effectiveness of teacher education programs.

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12. A water treatment plant treats 5 million liters water a day. Calculate alum i
a day if the plant used 15 tone alum per year.