Teachers' Attitude toward Computer Use in Classroom Practice

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Abstract: Innovation of computer technology as a learning tool dramatically changes the traditional concept of teaching. Now a day's computer is considered as means of achieving the educational goals where teachers' role is as like a facilitator. However, the teachers' attitude is an important issue on integrating computer in modern classroom teaching-learning process. The aim of this study was to investigate the prospective teachers' attitude toward computer use in classroom practice. The current study was followed by survey research design. Selected items from different Computer Attitude Scales (CAS) and Technology Acceptance Model (TAM) were used to collect data using 5 point Likert type scale. The population was the students enrolled in Information Technology under Educational Studies discipline [B. Ed. (Hons.)] in UUM, CAS and the sample were the final semester students of same discipline. This study were covered the minimum number of sample size. The overall results illustrate that the prospective teachers are intended to use computer in classroom practice. However, the atttitude toward computer use differed by male and female. The result also suggests that the prior computer experience is another factor toward computer use in education. It also can be concluded that the perceived usefulness, perceived ease of use and affective component are considered as important factors in acceptance of computer in classroom practice. The results may useful of professional development of prospective teachers and teacher educators. It may be a source of supportive paper to the policy makers, curriculum developer, administrator. as well as it also may helpful of achieving. Therefore, the findings of the study has significant effect in computer integration into curriculum instruction as well as useful of attaining the goal of national policy of education which aimed at the Malaysian vision 2020.

Keywords: computer technology, teaching, Computer Attitude Scales (CAS), classroom practice, Malaysian vision

INTRODUCTION

Innovations of computer technology as a learning tool dramatically change the traditional concept of teaching. It makes the classroom teacher centered to student centered. Within the usefulness of computer technology in classroom teaching, many countries make more investment in ICT to change and innovation of their education through highly technology supported classroom [1]. Malaysian Department of Education (MOE) has initiated several steps in education to facilitate greater integration of information and communication technology to reach its vision 2020 whereby ICT has become a central concept [2]. Most of the schools now in Malaysia are under the coverage of ICT [3].

However, the availability of computer facilities does not make sure it's extensively use in classroom teaching[4] because there are some problems with the diffusion of new technology as a part of teaching and learning tools. [3]. The success of new initiatives in an educational program depends strongly upon the support and attitudes of teachers involved [5].Therefore, the prospective teachers' attitude toward using computer in classroom teaching is important issue for 21st century for the reason that the technology will direct the upcoming century and will make significant contribution to education. It will be the key aspect to the power of knowledge and change significantly the classroom teaching and learning environment [6]. where the teachers' role will be more challenging as well as more important to adopt the new innovation in practice. To meet the upcoming challenge, teachers should be competent of using technology and manage the learners successfully.

The previous computer skills of teachers change their attitude toward computers and intend to use its application in their classroom teaching. Therefore, there is a luminous opportunity in prospective teacher education program to make familiar and eradicate the introversion to computer technology as a learning tool and can insist of proper utilizing it in classroom teaching. Consequently, after the invention of educational technologies into classroom settings, prospective teacher education program are facing a lot

of challenges for improving teacher education and preparing them for successful integration of educational technologies into their teaching and learning practices [7] because the initial acceptance and future use of computer technology depends on teachers' attitudes [8]. The prospective teacher education program can prepare the future teacher those who will be changing agent of new century classroom required with more freedom of learning whereby technology will be played a dominant role and will be more important factor in education [6].

Information and Communication Technology (ICT) has been proven to be a very important aspect of the teaching learning process. Now-a-days, students, prospective teacher education program are required to make themselves rapidly as an adopting/integrating agent of ICT in teaching and learning. The success of implementing new innovation of education in schools depends on teachers' competent and their attitude of using ICT in classroom. If teachers believed that new innovative computer program will be helpful either their own professional development or their students' needs, they intend to introduce computer into their teaching and learning [5].

In perspective of Malaysia, their school setting is rapidly changing from traditional to computerized setting. Therefore, computer literacy and skills both are very much essential for upcoming teachers to use of computer in their teaching practice. Their attitude towards computer use also depends somewhat with their ease of use on computer knowledge. They should know the importance, apposite functions and reality of the computer knowledge to take maximum advantage in their teaching [16] asfuture teachers in Malaysia. It is also notable that all Malaysian prospective teachers are exposed at least one ICT course where they are taught word processing, presentation, database and spreadsheet and able to create their own homepage, surf the Internet to access information and use the e-mail [9].

The effort of the study is to find out the prospective teachers' attitude toward using computer in classroom practice because their positive attitude have significant effect on their computer use as teaching and learning tool [1]. On the other hand, the developing of teachers' positive attitudes towards computer is very important to ensure not only computer integration, but also to avoid their resistance to use computer in their classrooms. School administrators and teachers can take necessary steps to implement the computer technology in classroom so that the students will be prepared themselves for 21st century. Curriculum developer, university lecturers and overall, the secondary school student in Malaysia will be benefited from the study.

OBJECTIVES OF THE STUDY
Ministry of Education of Malaysia intends to have all 10,000 primary and secondary schools to be wired and fully equipped with ICT [2]. However, the implementation of ICT depends on the teachers' attitudes towards using computer in classroom. Therefore the study intends to

i. explore the prospective teachers' attitudes toward computer use in classroom practice;
ii. identify the relationship of teachers' attitude among computer attitude, affective component, perceived usefulness, and perceived ease of use;
iii. investigate the effects of computer use in classroom practice by prospective teachers' prior experience of computer use;
iv. recognize the difference of using computer in classroom teaching by gender;

RESEARCH QUESTIONS
The following research questions are focused in the study:
1. What is the prospective teachers' overall attitude towards computer use in classroom practice?
2. Is there any relationship among computer attitude, affective component, perceived usefulness, and perceived ease of use?
3. Is there any effect of using computer in classroom practice by prospective teachers' prior experience of computer use?
4. Is there any significant difference of using computer in classroom by gender?

RESEARCH HYPOTHESES
H_O1:There is no significant relationship between prospective teachers' affective components and attitudes to computer use in classroom practice.
H_O2: There is no relationship between prospective teachers' perceived usefulness and attitude to computer use in classroom practice.
H_O3: There is no significant relationship between prospective teachers' perceived ease of use and attitude to computer use in classroom practice.
H_O4: There is no significant relationship between prospective teachers' affective components and perceived usefulness to computer use in classroom practice.
H_O5: There is no significant relationship between prospective teachers' affective components and perceived ease of use of computer in classroom practice
H_O6: There is no significant relationship between prospective teachers' perceived usefulness and perceived ease of use of computer in classroom practice.
H_O7: There is no significant difference between prospective teachers' prior experience of computer use and attitudes to computer use in classroom practice.

H_O8: There is no significant difference between gender and computer use in classroom practice.

Significance of the study

According to the trend of using ICT in 21st century classroom, Malaysian Department of Education (MOE) carried out a number of projects to enhance student-centered learning through facilitating greater integration of ICT. In perspective, MOE launched smart school from 1999 for the first step to adapt ICT and building student centered classroom which help to achieve the aims of the National Philosophy of Education. The program emphasized a technology-supported education to assist Malaysia fulfill the need for an information technology literate population [10], critically thinking work force considering the Malaysian vision 2020 to make Malaysia a leader of the information and communication technology center internationally [4].

Computer as a learning tool seeks its demand to use in classroom learning becomes more fruitful. However, the successful use of computer in classroom teaching mostly depends on teachers' attitudes and acceptance [8,11]. For that reason, MOE introduced MySchoolNet to help computer use in education and they conduct several training for prospective teacher and insevrvice teacher as a part of requirement of all trainee teachers having computer literacy and the use of ICT in pedagogy [12] because teachers' positive attitude towards computer depends on their prior experience.

Teachers as a facilitator perform their job if they feel interest and get benefited from computer either their delivering process or students' better achievement. Prospective teacher education program can promote teaching techniques through using computer and generate motivation to implement in their profession because computer does not have educational value if the teacher do not use in teaching-learning process [1]. Teachers' role is more challenging in technology based classroom. All of the success of implementing computer and students' achievement depend on teacher attitude of using computer and their willingness. Most of the studies show that teachers gain a positive attitude towards ICT through government interventions and training programs [14]. Teacher training program take place a significant factor in the effective use of ICT in learning-teaching process [1], increase motivation and encourage teachers to towards intention to use computer in classroom.

Teachers play a vital role in the development and use of computer in education as well as they have a significant impact on their students. The instructional strategies selected by the teachers influence student learning outcome [13]. The students may get opportunity to create new knowledge and skills where teacher teach through students' activities by using technology. Technology fosters the use of more student-centered learning (SCL) strategies teachers, therefore, will have to gear their teaching styles toward methods that emphasize collaborative learning, problem solving and critical thinking [10].

Both developed and developing countries try to integrate ICT in every stage of education to capable the students for facing the 21st century skills in different aspects of daily life because the new century learner should have more knowledge as we are going to build a knowledge based society. With the advent of new technologies in the education system, students are expected to be creative and critical thinkers and active players with teamwork skills to be successful learners in the twenty-first century [10]. Students are now able to achieve learning goals better with the help of computer technology[28]. Technology can make education more productive, more individual and powerful, instruction a more scientific base and make access to education equal [5].

Limitations of the study:

The study specifically investigated teachers' attitudes towards and approaches to using computer in their teaching and learning process. There are several limitations in the study e.g. the proposed study have to be completed within a short time of period. Limited time was taken in consideration during all activities of study. The sample will be relatively small *and purposively selected*. The small sample size may not be representative of the larger prospective teacher population whom may or may not use computer for instructional purposes. Another limitation is that the validity of the current study was limited to the reliability of the instruments used. The variables were chosen by selection of the Computer Attitude Scale and Technology Acceptance Model. As a result other significant variable that influences computer attitudes was excluded. The honesty of the samples' responses may another limitation of the study. Researcher bias might be a limitation for the study because the researcher was responsible for collecting and analyzing data. The language of questionnaire was English. It might be another limitation for the study.

Operational Definitions
Prospective Teacher

Prospective teacher those who are guided, supervised teaching for a certain period of professional development. They work under shadow with cooperating teacher in teacher education program. Cooperating teacher encourages the prospective teachers to assume greater responsibility in classroom management and instruction as the experience progress. The prospective teacher training program recently isgoing to assemble experience on newly ICT

embedded curriculum. The program is useful to change their attitude toward computer use in classroom instruction.

In this study, prospective teacher included all teacher candidates and student teachers who enrolled in teacher education program major in Information and Communication Technology from Educational Studies discipline College of Arts and Sciences (CAS), Universiti Utara Malaysia (UUM), who never taught in a public or private school as a certified teacher.

Prospective Teachers' Attitudes toward Computer
The development of positive attitude toward information technologies among teachers is now major issue in education [6]. Teachers' positive attitude is the power by which they can drive to success and can make easy access of new innovation in education(Wikipedia). Prospective teachers can prepare themselves positively their views toward using computer in classroom practice through experience from training courses. Research has also shown that teachers who had a spectrum of attitude such as fear of possible failure because of lack of knowledge of the technology, and skepticism toward technology, gradually changed toward an appreciation through classroom experience [15]. In order to use of computer and computer-based systems effectively, productively and efficiently in classroom teaching teachers should have correct and positive attitude toward them [41].

In this study, the prospective teachers' attitude refers to the teachers' perception, opinions, beliefs, and willinglyness to use computer in classroom teaching-learning process.

Prospective Teachers' Perceived Usefulness
Perceived usefulness is defined "the degree to which a person believes that using a particular system would enhance his or her job performance" [17]. Perceived usefulness is the teachers' experiences that using an innovative application program which may increase their job performance within an organizational context [8]. Teo stated [5] that "perceived usefulness is the user's subjective belief that using a technology

application/system will increase or improve one's job performance and productivity". Cowen [18] defined that the "perceived usefulness is the user's subjective belief that using a technology application/system will increase or improve one's job performance and productivity". Perceived usefulness is defined in this study as the teachers' experiences which help the teachers make sure of using computer to accomplish their task in classroom practice.

Prospective Teachers' Perceived Ease of Use
Perceived ease of use is defined "the degree to which a person believes that using a particular system would be free of effort" [17]. Teachers' perceived ease of use refers to the use of innovative program in teaching and learning practice with more confidence and free of effort [8]. Teo [5] explored that "perceived ease of use refers to the user's belief that the use of technology will be free of effort". Cowen [18] stated that "the perceived ease of use refers to the user's belief that the use of technology will be free of effort".

In this study, perceived ease of use is treated as great of confidence on computer use in classroom practice.

Prospective Teachers' Affective Component:
In this study, affective component is used as the degree of confident level of using it in classroom practice.

Conceptual Framework
Computer is frequently used as learning tool improves both delivery strategy of teaching and students' achievement. If the future teacher will not use computer in teaching and learning, students will be left behind. The new teacher may need assistance deciding how to do this on a daily basis. Some of teachers are not habituated to introduce computer into the classroom, because they are not confident on their computing skills and have erroneous idea about computer. In this perspective, the prospective teacher attitude toward computer as a learning tool is examine in the study by following conceptual framework.
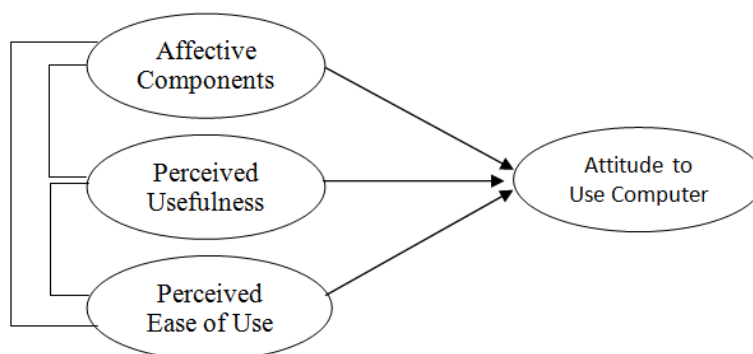

Fig-1: Conceptual framework [28]

LITERATURE REVIEW
Theoretical models of computer adoption:
The two popular theories of integrating technology in education e.g. "Diffusion of Innovations" and "Technology Acceptance Model" are focused in current study according to the objectives.

Diffusion of Innovations

Roggers [19] provided a theory named "Diffusion of Innovations" with five stages what analyze the characteristics of adopters of new innovation. These stages are: i) knowledge, ii) persuasion, iii) decision, iv) implementation, and v) confirmation. He asserted that the process through which an individual passes from first knowledge of an innovation, to forming an attitude toward the innovation, to a decision to adopt or reject, to implement the new idea, and to confirmation of this decision. The theory emphasized the importance of attitudes toward innovation process and user acceptance rate in different stages.

In this study, the aim is to investigate the prospective teachers' attitude to computer use as learning tool in classroom teaching. The innovation of this study is computer technology, and diffusion is the extent to which prospective teachers' attitude to computer use in classroom practice.

Technology Acceptance Model

The Technology Acceptance Model (TAM) given by Davis [17] is one of the popular model usually accepted theoretical framework to technology acceptance. The goal of TAM is "to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified" as well this model also aimed at developing improved measures for system quality and focused on two theoretical constructs perceived usefulness and perceived ease of use. Mostly, the TAM explained the determinants of computer acceptance. The model also suggests that when users are presented with a new software package, a number of factors influence their decision about how and when they will use it.

The study is to investigate the teachers' confidence, perceived usefulness and ease of use to computer use in teaching and learning whereas the TAM as the core model, also intended their work on perceived usefulness and perceived ease of use to form a composite model to explore the prospective teachers' acceptance of computer technology.

Prospective teachers' attitude to computer and their uses:

Computer is usually used as learning tool to improve both teaching and students' achievement. There are so many early works also addressed the relationship between computer attitude and computer use. Different studies have shown that the successful implementation of educational technologies depends largely on the attitudes of teachers, who are the implementing agent in classroom practice [20]. Teachers' computer knowledge and ability are the key factors of adopting it as a teaching tool.

Most of the studies depicted that teachers gain a positive attitude towards ICT. Hamed [11] revealed that teachers' ICT attitude in educational use was fairly positive. Teo[5] carried out a study in the context of Singapore and Malaysian pre-service teachers' intention to use technology. They found that the Malaysian prospective teachers had more positive attitudes towards computer use in classroom teaching-learning process compared with Singaporean counterparts. Teacher educators in Johor, Malaysia, displayed moderate to highly positive attitudes toward computer use in classroom practice [21].

Teo [5] found on his study that the prospective teachers demonstrated positive attitude toward the computer use in classroom practice. This finding is also similar with the study of [13,22,23,20]. Albirini [20] quoted that the development of teachers' positive attitudes toward computer is a key factor not only for enhancing computer integration but also for avoiding teachers' resistance to computer use. Teachers' attitudes toward computer use and some other factors are significantly related of teachers' use of computers for classroom practice [24]. Reed, [25] studied the attitudes of the teachers at one high school in regards to the use of computer technology and found that the teachers at upstate New York high school possessed positive attitudes toward computer use in classroom instruction.

On the other hand, Nikolopoulou & Gialamas [26] conducted a study on prospective early childhood teachers' views and intentions about integrating and using computers in early childhood settings and found that the teachers had positive views and intentions about the integration and use of computers. Birisci, Metin, & Karakas [6] examined also in elementary prospective teachers' general attitude towards computer and Internet use. Their study showed that the prospective teachers' general attitude towards computer and Internet use at higher level. They predicted against more computer use in classroom might be getting homework from instructors and different usage of computers and its various applications in instruction inspired them to make more use.

Perceived usefulness and Perceived ease of use:
Among the many variables Davis argued that users' behavior could be understood through examining

users' perceived ease-of-use and usefulness for a particular technology [17]. Perceived usefulness is defined as "the prospective user's subjective probability that using a specific application system would increase his or her job performance with in the organizational context" [8]. They also defined the perceived ease-of-use as "it refers to the degree to which the prospective users expected the target system to be free of effort".

There are a lot of variables affecting of computer integration into classroom. However, previous research found that the perceived usefulness and perceived ease of use received considerable attention in technology acceptance/adoption studies [27]. They possessed that there were significant in both direct and indirect effects on intention to computer technology use in perceived usefulness and perceived ease of use. Ma, Andersson & Streith [28] in their study explored that the teachers' perceived usefulness had significant positive attitude to computer use in classroom practice on the other hand perceived ease of use had no significant difference on their intention to use computer technology. Cowen (2009) showed that the perceived ease of use is significantly related perceived usefulness.

In their study Ayub, Tarmizi, Bakar, & Yunus [29]. compared of Malaysian secondary school students' perceived usefulness and perceived ease of use of dynamic mathematical software and found positive correlations between levels of attitudes toward problem solving with perceived ease of use and perceived usefulness towards the use of technology among learners. On the other hand, Brown [30] exposed that the perceived ease of use and perceived usefulness is relatively related with each other.

Prior computer experiences and their effects on uses:
A number of studies found that there is a relationship between computer experience and its classroom use. Teo [5] found that the experience of computer use and level of computer confidence are positively correlated with positive computer attitudes.Demetriadis et al., [31] added that the teachers' prior experience helped developing a positive attitude towards the further acceptance of technology taught in training program. Hamed [11] dipicted in his study that the ICT trained teachers have more positive attitude toward ICT in education than non-trained teachers. The computer proficiency greatly afffected the use of computer in classroom practice whereas the lack of computer proficiency make limited computer use in education [24]. Yildirim [32] found that there is a lack of computer knowledge and ability of teacher constitute obstacles in the integration and use of computers in the classroom.

Bakar & Mohamed [2] revealed that ICT confidence among different subject domain students differed significantly. They also concluded that the trainee teachers who had taught in schools felt more confident with their ability to integrate technology in teaching. Lin [33] surveyed on prospective teacher attitudes about computer and mathmatics and dipicted that the the students who participated in IT related course showed more positive attitude toward using computers than did students who did not take part in such type of course. The findings also dipicted that there was a positive relationships between computer experience and attitiude about using computers in teaching. This finding also align with Birgin, Çatloğlu, Coştu, & Aydin [34] they studied on student mathmatics teachers and found that having a CAI experience and computer competency foster positive attitudes toward CAI. Mello (2006) concluded that one of the most important factors for the teachers was their perceived ability to use ICT in the teaching of their subject. Tezci [1] found that ICT use in classroom was limited that was attributed to the level of experience and level of knowledge.

Attitude toward computer use by gender:
The computer as a learning tool should use similar irrespective of male and female teachers in classroom teaching. However, the prior study has found different findings in different situation on above stated issue. Some of the past study revealed that there were differences between male and female teachers in use of computer in classroom. Özdaml, Hürsen, & Özçinar [13] found that there was a significant gender differences in attitudes towards educational technology. In relation with this finding, male students were found more confident than female students in the integration of computer technology in teaching [2].

In terms of gender Tezci [1] found in her study that there were statistical difference in ICT knowledge and use of Internet in teaching where male teachers showed higher positive attitude than female teachers. In a study of Dutch perspective, the researchers found that the female teachers were less confident with computer use in classroom teaching than male teachers [35]. Hamed [11] conducted a study on Kuwait high school teachers and found that there was slightly difference between male and female teachers' positive attitude toward technology where male scored higher than female teachers.

On the other hand, Martin [37] concluded in perspective of United States of America that there was no significant difference in technology acceptance by gender. Tezci [1] and other researchers did not found any significant difference between male and female teachers in computer knowledge and practice in education. Prospective teachers' general attitude toward computer and Internet are at higher level in terms of gender and there is no significant difference between the attitude toward computer use in classroom teaching

[6]. Ridzuan, Sam, & Ahmad [21] did not get any significant differences in computer use based on gender in Malaysian perspective. They concluded that gender and age may not be a significant issue in the context of Malaysian users.

METHODOLOGY
Research Design:
According to Creswell [37], "Research designs are the specific procedures involved in the last three steps of the research process: data collection, data analysis and report writing" (p.59). In this study, quantitative approach through survey research design was followed to find out the current view of prospective teachers' attitudes towards computer in classroom teaching-learning. The strategy was followed of cross-sectional survey research design. Cross-sectional strategy is the most popular form of one time data collection procedures. This design has an opportunity of measuring the current attitude or practices (p.389). There were several past studies done through cross-sectional strategy and reached their goals according to their study.

Population and Sample:
The population were the prospective teachers those who enrolled in Information and Communication Technology [B. Ed. (Hons.)] under faculty of Educational Studies, College of Arts and Sciences (CAS), University Utara Malaysia (UUM), Malaysia. The sample for this study has been carried out on prospective teachers those are now in final semester, 2010 and have completed two IT related course with six (6) credit hours. The minimum number of participants was included for this study because of time limitations.

Research Instrument:
The data was collected through a questionnaire because the questionnaire is the most popular way of collecting data for quantitative study. There are two parts of instrument. Part-I is combination of demographic data such as computer experience, years of computer use and perceived confidence, and part-II consists with 25 items from different *Computer Attitude Scale* (CAS)related to attitude toward computer use (ATT) (three items) and affective component (AFF) (six items) developed by Thompson, Higgns, & Howell, 1991 & Compueau & Higgns, 1995 as cited in Teo *et al* [9] and Selwyn [38 respectively, perceived usefulness (PU) and perceived ease of use (PEOU) (eight items in both cases) from Technology Acceptance Model (TAM) developed by Davis [17], were used to measure the prospective teachers' attitude toward computer of using it in classroom practice.

Reliability and Validity:
In the current study researcher used the prior constructed instrument that is used in several earlier studies. The adopted items were found to be a reliable instrument to measure attitude toward computer among teacher education students. Goodstadt-Killoran reported that the CAS possessed high reliability (α = 0.90) as cited in [5]. Ma, Anderson, & Streith [28] found high reliability coefficient (α = .93 and α = 0.95) for perceived usefulness and perceived ease of use (PEOU) consequently, whereas, Teo [5] found reliability coefficient (α = .66) for perceived usefulness.

Analysis of Data:
The collected data was statistically analyzed through using PASW statistics 18.0 software accordingly the gender, age, level of computer experience, experience on previously computer course, and the perception of participants on overall computer attitude through different subscales e.g. attitude to computer use in classroom, affective component, perceived usefulness, and perceived ease of use. Frequency, mean, and standard deviation were used for identify the teachers' attitude toward computer use in classroom practice. Correlation was applied for measuring the relationships among different variables. Whereas, t-test, one-way analysis of variance (ANOVA) based on $p=0.05$ significance level were examined to clarify the significance level.

RESULTS
Descriptive Statistics
The descriptive statistics contribute to obtain an overall idea about the demographic data of the participants considered in the study. The study was conducted on thirty eight prospective teachers (female 24) from the final semester students of Bachelor of Education (IT) of UUM CAS. They were studied to determine the attitude toward computer use in classroom practice. A one-way ANOVA has been done between years of experience and overall computer attitude for measuring whether have any effect of prior experience of computer use in classroom practice. On the other hand, independent sample t-test have been performed between gender and overall computer attitude to identify whether there is any difference of using computer in classroom practice regarding gender.

Key Results:
The prospective teachers were asked to explore their attitude toward computer use in classroom practice. The participants responded on five-point Likert scale of strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5).

Prospective teachers' overall attitude toward the computer use in classroom practice
Regarding the first research question, researcher was intended to explore the prospective teachers' overall attitude toward the computer use in classroom practice. Table-1 shows the mean and standard deviation of subscales along with overall computer attitude. The results indicate that the

prospective teachers' overall computer attitude (M = 3.99, SD = 0.37) is well above than the mid-point of its scale (3.00). The mean of attitude (M = 4.42, SD = 0.43) is higher among the subscales whereas the mean of the perceived usefulness is (M = 4.31, SD = 0.47). The participants scored the lowest in perceived ease of use (M = 3.44, SD = 0.36) which was followed by affective component (M = 3.79, SD = 0.57). According to the mean score of overall computer attitude explicates that the prospective teachers have a more positive attitude to computer use in classroom practice.

Table-1: Prospective teachers' overall attitude towards computer use in classroom practice

Subscale	No of Items	Mean	SD
Attitude	3	4.42	.43
Affective Component	6	3.79	.57
Perceived Usefulness	8	4.31	.47
Perceived ease of use	8	3.44	.36
Overall Computer attitude	25	3.99	.37

Prospective teachers' relationship among different subscales toward computer use in classroom practice

According to second research question, which was investigated whether the prospective teachers' relationship among attitude to computer use, affective component, perceived usefulness, and perceived ease of use toward computer use. To meeting the purpose, a correlation matrix has been performed among the subscales. Table-2 illustrates the correlation among different subscales and tests the hypotheses (H_O1-H_O6).

Table-2: Correlation matrix of subscales

Subscales	1	2	3	4
Attitude to Computer use (1)	1			
Affective Components (2)	.46**	1		
Perceived Usefulness (3)	.63**	.55**	1	
Perceived Ease of Use (4)	.39*	.63**	.45**	1

$** p < 0.01 , * p < 0.05$

To what extent of relationship are remaining among computer attitude, affective component, perceived usefulness, and perceived ease of use?

According to correlation matrix, there are six relationships discovered and found that there is a relationship among the subscales. The relationships between perceived usefulness & attitude to computer use and perceived ease of use & affective component are similar. Both of the relationships are statistically significant (r = 0.63, p < .01). The results indicate that the strong relationships are remaining in between the above stated pairs than the other. The findings also specify that the null hypotheses (H_O2 & H_O5) are rejected. There is a moderate as well as statistically significant relationship between perceived usefulness & affective component (r = 0.55, p < .01) and affective component & attitude to computer use (r = 0.46, p < .01). These results identify that the null hypotheses (H_O4 & H_O1) are rejected. Consequently, the relationship between perceived ease of use and attitude to computer use is weak but statistically significant (r = 0.39, p < .05) followed by perceived usefulness and perceived ease of use (r = 0.45, p < .01). In these cases also the null hypotheses (H_O3 & H_O6) are rejected. According to the results, it can be assumed if the prospective teachers' computer attitudes are positive, the attitude to computer use in classroom practice will also be positive. In contrast, if the prospective teachers' computer attitudes are negative than the computer use in classroom will be negative.

To what extent of effect of prior experiences in computer use in classroom practice?

Regarding the third research question, the one way ANOVA has been done to determine whether the effect of prospective teachers' prior experience of computer use in attitude to computer use into classroom practice.

Table-3 shows the test of homogeneity variances. The homogeneity of variances is not statistically significant (p > .05). This finding assumes that there are equal variances among the three different groups of prospective teachers on the basis of experiences of computer use. Thus, the result for the homogeneity of variances has fulfilled the assumption of variances which should not be significant. The one way ANOVA is then conduct to find out the statistical significance level among the three groups of participants' experiences level.

Table-3: Results for the test of homogeneity variances for the computer experiences

Levene Statistic	df1	df2	p
2.16	2	35	.13

* p> .05

Table-4 states that the *p* value level is .00 which is less than the accepted alpha level .05. According to the result, there is statistically significant difference (p < .05) between overall computer attitude toward using computer in classroom practice and experiences of computer use [F (2, 35) = 6.66, p < .05]. Therefore, the null hypothesis (H$_O$7) that *there is no significant difference between prospective teachers' prior experience of computer use and attitudes to computer use in classroom practice* is rejected.

Table-4: ANOVA for difference in overall attitude to computer use into classroom practice based on prior experience of computer use

	df	Sum of Squares	Mean Square	F	p
Between Groups	2	1.38	.69	6.66	.00
Within Groups	35	3.63	.10		
Total	37	5.01			

* P < .05

According to the findings from table-5, there is a statistically significant difference between the highest experiences of computer use (11-15) and the lowest experiences group (0-5) in respect of the attitude of using computer in classroom practice. Furthermore, there is no statistically significant difference in overall computer attitude between years of experiences of computer use (11-15) and (6-10). The above stated table illustrates that there is a big difference between high computer users and low users in consideration of experiences, whereas, the medium users and high users is not found difference of using computer in classroom practice.

Moreover, the results illustrate that the mean of overall computer attitude among the three different years of experience is not similar. The overall computer attitude is higher (M = 4.35, SD = 0.14) those who have more (11-15) experiences, whereas the participants who have years of experience (6-10) have higher (M = 4.16, SD = 0.39) than the scored (M = 3.83, SD = 0.30) those who have experience of years (0-5) but less than the highest mean of overall computer attitude.

Table-5: Multiple comparisons with years of computer experiences and overall computer attitude

Years of computer experiences (1)	Mean (2)	Multiple Comparison (3)	Mean Difference (1-3)	p
1. 0-5	3.83	6-10	-.32*	.02
		11-15	-.51*	.02
2. 6-10	4.16	0-5	.32*	.02
		11-15	-.19	.57
3. 11-15	4.35	0-5	.51*	.02
		6-10	.19	.57

* p< .05

Overall ANOVA findings expose that there are different attitudes occurred among three different groups of experiences and those who have more experiences have shown more attitudes to computer use in classroom practice than the less experiences group. Therefore, it can be said that the length of experience of computer use has a significant effect on attitude of computer use in classroom practice.

To what extent of teachers' attitude toward computer use in classroom practice differed by gender?

According to the fourth research question, which was investigated whether prospective teachers' attitude toward computer use in classroom practice differed by gender, an independent sample t-test is performed. The Levene's test (table-6) makes sure that the result is not statistically significant. Therefore, it can be explained that the prospective teachers of the study are equal in consider of gender distribution.

Table -6: Results for the test of homogeneity variances for gender regarding the computer use in classroom practice

Levene's Test for Equality of Variances	p
1.94	.17

* p> .05

Table-7 shows that the result is statistically significant (p < .05). The finding discloses that there is difference [t (36) = 2.88, p < .05)] between male and female regard to the prospective teachers' attitude toward computer use in classroom practice. The finding also suggests that the null hypothesis (H$_O$8) that *there is no significant difference between gender and computer use in classroom practice* is rejected because of being derived *p* value level .01 is smaller than the accepted alpha level of .05.

On the other hand, table-7 also shows that the mean of overall computer attitude is different, where the male scored higher (4.20) than female (3.83) prospective teachers. Therefore, there is a difference attitude remaining toward computer use in classroom practice among the prospective teachers in respect of gender. Overall, the independent sample t-test indicates that the male prospective teachers have more positive attitude than female toward computer use in classroom practice.

Table -7: Overall computer attitude of using computer in classroom practice by gender

Gender	N	Mean	Std. Deviation	df	t	p
Male	14	4.20	.38	36	2.88	.01
Female	24	3.87	.31			

* p< .05

The findings from the analysis illustrate that the prospective teachers overall computer attitude toward computer use in classroom practice are highly positive. However, the male participants have showed more positive attitude than female. The prior experiences have also significant effects in positive attitude to computer use in classroom practice. On the other hand, correlation results reveal that there are relationships among the different variables.

DISCUSSION
The current study has four main findings and eight hypotheses. According to research questions the findings are summarized in this part.

Research Question 1:
To what extent of the prospective teachers' overall attitude is remaining towards computer use in classroom practice?
The prospective teachers' overall computer attitude is well above than the mid-point of its scale. According to finding of overall computer attitude shows that the prospective teachers have a more positive attitude to computer use in classroom practice. This finding is similar with the study (e.g., [11,13,5,25,22,23,20] especially in Malaysian context [21] and Teo *et al* [9] compared the teachers'intention towards computer use among pre-service teachers in Singapore and Malaysia and found that Malaysian had more positive attitudes towards computer use in classroom teaching-learning process compared with Singaporean counterparts. On the other hand, prospective teachers in early childhood education in different perspective also had a positive views and

intentions about the integration and use of computers in classroom practice ([26,6]. The prospective teachers find the efficiency and success of using technology in instructional purposes [28].

The prospective teachers' positive attitude to use of computer in classroom practicecould be explained that the students have already completed two courses related with educational technology as a part of their program. They were provided technology oriented classroom somewhere come to know about the importance of technology oriented classroom. The activities of courses might be useful for building positive attitude of computer use and could be expected that they would carry out their intentions what they have learned in their courses. It could be assumed that the positive attitude is the effect of having availability of computer at home and their secondary school education. Moreover, the Malaysian Department of Education (MOE) has taken several initiatives to integrate ICT in teaching and learning [3] to reach its vision 2020 whereby the students become familiar with computer from school education and used to learn through computer. The steps of MOE may have great impact of its students on attitude to integrate computer in classroom practice. In contrast, prospective teacher training also could facilitate to construct the positive attitude to integrate computer in teaching and learning for lively teaching in classroom and makes them friendly to adapt new innovation in technology supported classroom.

Research Question 2:
To what extent of relationship are remaining among computer attitude, affective component, perceived usefulness, and perceived ease of use?

Altogether six relationships came out from the research questions two and found that there are significant relationships among the subscales. From the findings of the study it could be explained that the perceived usefulness and perceived ease of use have significantly effect on computer use in classroom practice. This result is similar with some prior studies. Legris, Ingham, & Collerette, [27] found that the perceived usefulness and perceived ease of use received significant in both direct and indirect effects on intention to computer technology use. Whereas, Ma, Andersson & Streith [28] in their study explored that the teachers' perceived usefulness had significant positive attitude to computer use in classroom practice on the other hand perceived ease of use had no significant difference on their intention to use computer technology. There is a significant positive relationship among perceived usefulness, perceived ease of use [39] while Brown [30] exposed that the perceived ease of use and perceived usefulness is relatively related with each other.

The relationships from the findings indicate that perceived usefulness, perceived ease of use, affective component, and attitude to computer are relatively related to adopt computer in classroom teaching. That means the above stated subscales are significantly important in adoption of new innovation like computer in education. It can be assumed that prospective teachers' perceived usefulness and perceived ease of use of computer have been very useful of future computer use in their classroom practice as well as it will contribute a lot to the performance of students.

Research Question 3:
To what extent of effect of prior experience are in computer use in classroom practice?

The ANOVA test reveals that the result is statistically significant. The overall ANOVA results exhibit that the group those who have more experience have more positive attitude toward computer use than the less experience. However, there is no significant difference in consideration of significance level between the group of 11-15 and 6-10 years in spite of having difference in mean attitude. Consequently, it can be make clear that the number of year of experience has a significant effect on computer use in classroom practice. This finding is similar with the study of Teo, [5]; Demetriadis et al., [31]; Latio, [24]. They found that the experience of computer use and level of computer proficiency are positively correlated with positive computer attitudes. The lack of computer knowledge and efficacy constitute obstacles to integrate ICT in teaching[34,1,40,32]. This indicates that the

participants might have availability of computer in home and their previous course of study in schools.

The prospective teachers studied in the study were taught in two computer related course. The courses were beset with several computer related assignments and presentations which make themselves confident and construct positive attitude toward computer use in classroom practice. Prospective teachers become touch in different sources of teaching resources during their class time and realize the importance of computer and its motivation power which encourage adapting technology in classroom practice. Conversely, the number of initiatives taken by MOE to reach information technology literate population [10] and make critically thinking work force which would help to attain the Malaysian vision 2020 [4] also build up the prospective teachers' attitude to computer use in classroom instruction.

In this point of view, it can be match with Rogers' diffusion theory [19] where he defined that an innovation is an idea, practice or object that is perceived as new by the individual, and diffusion as the process by which an innovation makes its way through a social system. In this study, the prospective teachers are as individual who have positive attitude to computer use in classroom as instructional purpose.

Research Question 4:
To what extent of teachers' attitude toward computer use in classroom practice differed by gender?

The independent sample t-test result of the study illustrates that there is significant between male and female regard to the prospective teachers' attitude toward computer use in classroom practice. However, the result discloses that the male prospective teachers have more positive attitude compared to female toward computer use in classroom practice. This result is similar with the study of [13,1,11,2,35]. They found that the male students were more confident and showed more positive attitude than female students in the integration of computer technology in teaching.

On the other hand, the finding of the current study is not match with the study of Martin, [36]; Birisci, Metin, & Karakas, [6]. Their study did not find any significant difference in technology acceptance in respect of gender. This finding is not also similar with the study of Ridzuan, Sam, & Ahmad [21] even in Malaysian context. They concluded that there is no significant differences in computer use based on gender. It can be assumed for the current study that the female participants were more 63%, whereas the male participants were 37%. The percentage of participant may be a factor of gender differences in attitude to computer use in the context of Malaysian users.

The overall findings illustrate that the prospective teachers have positive attitude toward computer use in classroom practice.

Implications of the study:

This study foster the current trend of prospective teachers' thoughts about the acceptance of computer technology in classroom practice. They are seemed to be keen interested about using computer in their practice. The results could help to take next initiatives of integrating technology into pedagogy because the succes of integrating new innovation in teaching mostly depends on teachers' attitude. This is also important for Malaysia because they are going to be declared all 10,000 [2] schools as smart schools within 2010 which aimed at using ICT to reinvent learning and teaching to meet Malaysia's broader goals of integrating ICT to make critically thinking population. Therefore, the success of driven initiatives from MOE depends on teachers' acceptance of technology which may be useful to reach its vision 2020 targeted as main force in bringing Malaysia into the digital and global 21st century [3].

The findings of the study have several implications for adopting computer in teacher education program as well as the integration of computer as a learning tool in classroom. The results may be helpful to policy makers and curriculum developers embedded of computer in curriculum instruction and they can introduce new educational technology courses according to prospective teachers' requirements. The school administrators and head teachers may create sound environment of integrating computer and can take innovative plan to assimilate it by using prospective teachers' positive attitude to help Malaysia accomplish the need for an information technology literate populationas well as the mission of schools and vision 2020. Teacher educator can disseminate their training program considering the prospective teachers' expectations. They also could enhance their delivering strategy with using the opportunity of technology and improve the quality of training programs. Note that the prospective teachers' attitude may be differed from practicing teachers. Therefore, the policy makers should have concern the actual situation to integrate computer in classroom instruction.

The prospective teachers of Malaysia studied in the study have more or less prior experience on computer technology and they usually use computer which may direct them adopting technology very fast in practice. They have positive perceived usefulness and perceived ease of use that is in favor of adopting computer in education. Lecturers could use this force of prospective teachers who may contribute of making Malaysia a leader of the information and communication technology. While, the policy makers may enhance the infrastructure facilities and can improve the pre-service and in-service teachers' training and professional development.

MOE could take necessary steps to remove the gender disparity toward the greater integration of computer technology in classroom practice which found in the study and some other prior studies [11,2,35].Teachers are the driving force of integrating new innovations in education. It is not expected having differences in attitude toward integrating the technology in classroom in consideration of gender. Teacher educators may inform them about the importance and usefulness of technology as learning tools. They could encourage prospective teachers about their capability through giving different types of computer related tasks during the course, as a result the prospective teachers may show more interest to integrate computer for their instructional purpose.

Suggestions for further research:

A number of issues were ignored for this small scale study. The time of the study was relatively short with a few number of participants included in the study who majored in education of Information Communication Technology. A large part of the prospective teachers who were the students of other three departments of education in UUM CAS were left behind in this study. However, it is recommended that the sample size may be involved proportionately from further departments of education and compare their attitude to computer use in classroom because they are the major representatives of prospective teachers.

The research was quantitative and simply survey design was followed. In further research may be use both quantitative and qualitative design in the similar field of study. The participants interview may be promote important findings in that process.

Only one influencing factor teachers' attitude toward computer use in classroom practice was studied in the current study. Whereas, in perspective of prospective teachers' psychological issue such as anxiety and beliefs were not considered. The findings may be differed of inclusion of anxiety and beliefs with investigating teachers' attitude toward computer use. Some other internal and external factors may influence teachers' computer use in classroom practice. The further research may be carried out including all these issues which may make available critical information about integrating computer in education.

Within Malaysian there are three major socio-cultural backgrounded people such as Malay culture, Chinese culture, and Indian culture. Further researcher may focus these three different cultural groups and compare more in-depth attitude toward computer use in classroom practice. Moreover, the future researcher can take a project whether thare is any difference in attitude

to computer use based on students' high school type. In Malaysia have both rural and urban school. However, there is differnce in ICT facilities in urban and rural school setting.

CONCLUSION

Teachers' attitude is one of the most influencing factors of integrating new innovation in classroom instruction. The study was focused to investigate the prospective teachers attitude toward the intgation of computer in classroom practice. The results dipict that the prospective teachers are intended to use computer in classroom practice. However, the atttitude toward computer use differed by male and female. Previous computer experience is another factor toward computer use in education. It also can be concluded that the perceived usefulness, perceived ease of use and affective component are important factors in acceptance of computer in classroom practice. The results may useful of professional development of prospective teachers and teacher educators. It may be a source of supportive paper to the policy makers, curriculum developer, administrator. as well as it also may helpful of achieving. Therefore, the findings of the study has significant effect in computer integration into curriculum instruction as well as useful of attaining the goal of national policy of education which aimed at the Malaysian vision 2020.

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