Original Research Paper

Education

TEACHING AND LEARNING WITH ICT TOOLS: OPPORTUNITIES, ISSUE AND CHALLENGES.

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ABSTRACT Information Communication Technology (ICT) tools contribute to high quality lessons since they have potential to increase students' motivation, connect students to many information sources, support active in-class and out-class learning environments, and let instructors to allocate more time for facilitation. Information and communications technology (ICT) is an important part of most organizations these days. In this digital era, ICT use in the classroom is important for giving students opportunities to learn and apply the required 21st century skills. Hence studying the issues and challenges related to ICT use in teaching and learning can assist teachers in overcoming the obstacles and become successful technology users. Therefore, the main purpose of this study is to analyse teachers' perceptions of the challenges faced in using ICT tools in classrooms.

INTRODUCTION

Information and communications technology (ICT) is an important part of most organizations these days. Computers began to be used in schools in the early 1980s, and several scholars suggest that ICT will be an important part of education for the next generation (Bransford, Brown, & Cocking, 2000). Up.to.date technology offers many methods of enhancing classroom teaching and learning (Ghavifekr et al., 2014). Dawes (2001) stated that new technologies have the potential to upkeep education across the curriculum and deliver opportunities for efficient student.teacher communication in ways not possible before.

ICT in education has the potential to transform teaching. However, this potential may not easily be realized, as Dawes (2001) underline dwhenhe stated, "problems arise when teachers are expected to implement changes in what may well be adverse circumstances". Due to ICT's importance in society as well as in the future of education, identifying the possible challenges to integrating these technologies in schools would be an important step in improving the quality of teaching and learning. Balanskat, Blamire, and Kefala (2006) argue that although teachers appear to acknowledge the value of ICT in schools, they continue encountering obstacles during the processes of adopting these technologies into their teaching and learning.

However, despite the Ministry of Education, Malaysia having embarked on the project "1Bestarinet" in providing a virtual learning platform in schools to enhance ICT usage among teachers, ICT has not been fully adopted in the teaching and learning process in most schools in the country. Only a few teachers are using ICT as teaching and learning tools (MoCT, 2003). This is because the challenges outweigh the benefits (Bingimlas, 2009). Therefore, this study is expected to generate information on the teachers' perceptions and challenges of integrating ICT tools in the teaching and learning process. With changes in modern technologies learners need to be equipped with updated knowledge that will help them adapt to the changing world. Such knowledge leads to better communication and increased 21st century skills as a result of e.Commerce and self.employment in the ICT sector. Many studies have been conducted to investigate the challenge state chnology integration in education. This study provide steachers' perception and perceived barriers to the use of technology tools in class room' steaching and learning process. Therefore, the main objective softhisstudy areas follow:

I) To identify school teachers' perce ption sinimple

menting ICT tools in teaching and learning in classroom.
II) To determine the challenges of using ICT tool sinte aching and learning in the classroom among school teachers.
III) To identi fy that towhatextent doteache rsuse ICT tool sinteachng and learning in the classroom.

However, in this paper ICT tools refers to the common technology.based tools that are using in schools such as computer, Laptop, LCD, digital photocopy machine, digital Audio and Video devices, digital camera, scanner, DVD player and multimedia projector.
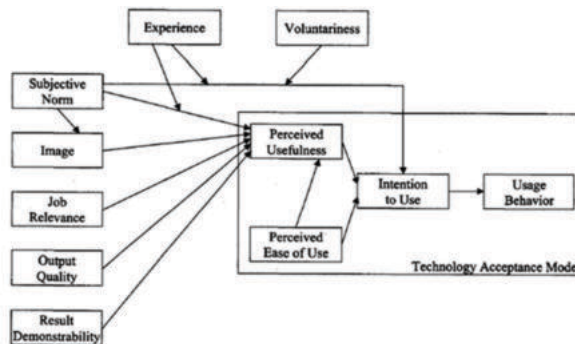
Theoretical Framework

Figure 1. A theoretical extension of the technology acceptance model as TAM 2 (Source: Venkatesh & Davis, 2000)

According to Venkatesh and Davis (2000) when teachers are presented with a new technology, two key factors would influence their decision from the extended variables around them about how and when they will use it:

External Variables –
It represents the challenges that teachers face that come from outside their sphere of control when integrating a new technology in their teaching and learning process. These challenges include:
• Limited accessibility and network connection
• Schools with limited ICT facilities
• Lack of effective training
• Limited time
• Lack of teachers' competency

Perceived usefulness (PU) –
It represents the degree to which they believe that using a particul

artechnologywoulden hance theirjob performance.Ifteachersf eelthereisnoneedtoquestionor change their professional practice then, according to studies, they are unlikely to adopt the use ofICTtools. However, ifthe yperceive ICT to beuse fultothem,theirteachingandtheirpupils'learning,then according to the empirical evidence of previous studies (Cox, Preston & Cox, 1999) they are more likely tohaveα positive attitude tousing ICT in the classroom. The following factors have beenidentifiedaskeyelementstoteachers' perceiv eduse fulnessofICTtools:

• Workmorequickly
• Jobperformance
• Increasedproductivity
• Effectiveness
• Useful

Perceivedease .of .use(PEOU)–Itrepresentsthedegreetowhicht heybelievethatusingaparticularsystem would be free from effort. Previous studies have identified α number of factors relating tothe perceived ease of use of ICT, in study on experienced practicing ICT users. The Impact project(Watson, 1993) and other studies identified α wide range of skills and competencies which teachersfelttheyneededinorderto findICTeasytouse. Someoftheseare:

• Easytolearn
• Clearandunderstandable
• Easytouse
• Controllable
• Easytoremember

Attitude toward use – teacher's positive or negative feeling about performing the target behavior(e.g., using α system). Basically, teachers' attitudes too many of these factors will depend upon howeasytheyperceiveusingICTtoolsto beonapersonal levelaswellasforteachingintheclassroom.

Behavioral intention . The degree to which the teacher has formulated conscious plans to perform or not perform some specifiedfuture behavior.

• Social influence processes (subjective norm, voluntariness, and image) and cognitive instrumentalprocesses (job relevance, output quality, result demonstrability, and perceived ease of use) asdeterminants ofperceivedusefulness andusage intentions.

Basically, the updated version of TAM 2 consists of additional determinants that are social influenceprocessand cognitiveinstrumentalprocessesofperceivedusefulnessandus ageintentions.

ChallengesinusingICTinteachingandlearning
Thefollowingaresomeofthekeychallengesthathavebeenidenti fiedintheliteratureregardingteachers' use ofICTtoolsin classroom.

I) Limited accessibility and network connection
Thechallengesrelatedtotheaccessibilityofnewtechnologiesfor teachersarewidespreadanddifferfromcountrytocountry.Empir ica's(2006)Europeanstudyfoundthatlackofaccessisthelar gest barrierandthatdifferentchallengestousingICTinteachingwere reportedbyteachers,forexamplealackofcomputersandalacko fadequatematerial.

School with limited technical support
Without both good technical support in the classroom and whole.school resources, teachers can not be expected too ver come the obstaclespreventingthemfromusing ICT(Lewis, 2003).Pelgrum(2001)foundthat in the view of primary and secondary teachers, one of the top barriers to ICT use in education was lackoftechnical assistance.

ii) Lack of effective training
AccordingtoBectα(2004),theissueoftrainingiscertainlycomple

xbecauseitisimportanttoconsiderseveralcomponentstoensur etrainingeffectiveness.Theseweretimefortraining,pedagogic altraining,skillstraining,andanICTuseininitialteachertraining .Correspondingly,recentresearchbyGomes(2005)relatingtova rioussubjectsconcludedthatlackoftrainingindigitalliteracy,la ckofpedagogicanddidactictraininginhowtouseICT intheclass roomandlackoftrainingconcerningtechnologyuseinspecificsu bjectareaswereobstaclestousingnewtechnologiesinclassroo mpractice.SomeoftheSaudiArabianstudiesreportedsimilarre asonsforfailuresinusingeducationaltechnology:theweakness ofteachertrainingintheuseofcomputers, the use of α "delivery" teaching style instead of investment in modern technology (Alhamd,Alotaibi, Motwaly, &Zyadah, 2004), as well as the shortage of teachers qualified to use the technology confidently(Sager, 2001).

iii) Limited time
Severalrecentstudiesindicatethatmanyteachershavecompete nceandconfidenceinusingcomputers in the classroom, but they still make little use of technologies because they lack the time. Asignificantnumberofre search ersidentified timelimitationsandthedifficulty inscheduling enough computer timeforclassesasabarriertoteachers' useof ICTintheirteaching. Becta'sstudy(2004) foundthattheproblem oflackoftimeexists forteachersinmany aspects of theirwork as it affects their ability to complete tasks, with some of the participant teachers specifically statingwhich aspects of ICT require more time. These include the time needed to locate Internet advice, preparelessons, explore and practise using the technology, deal with technical problems, and receive adequatetraining.

v) Lack of teachers' competency
Another challenge directly related to teacher confidence is teachers' competence in integrating ICTinto pedagogical practice (Becta, 2004). In Australian research, Newhouse (2002) found that many teacherslackedtheknowledge andskillstousecomputers and were un enthusiastica boutthechanges and integration of suppleme ntary learning associated with bringing computer sintotheir teachingpractices.\

CONCLUSION:
Thisstudywillofferpricelessinformationtotheschooladministra tionaswellastoeducationalpolicymakers regarding the nature of ICT contribution to the teaching.learning process. Since the attitude andperceptions of the teachers are critical to how effectively an innovation is implemented, it is important togauge how teachers perceive this innovation and its efficacy as α tool for enhanced teaching and learning. Itis also hoped that this study will contribute to the growing knowledge base and 21st century generationregardingthe useofICT ineducationinIndia.In future studies more focus should be given on management strategies and policies to address thebarriersfacedbyteachersinusingICTtoolsinteachingandle arning.Ifthebarriersfacedbyteacherscanbeovercome, it is α step forward to enhance our students' learning outcome.

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