

NEXT 10 YEARS OF TEACHING AND LEARNING WITH TECHNOLOGY

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ABSTRACT

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Integration of knowledge, Communication, and Technology (ICT) will assist teachers to the worldwide requirement to switch traditional teaching methods with technology-based teaching and learning tools and facilities. In Malaysia, ICT is taken into account jointly of the most elements in transforming the country to future development. The Ministry of Education, through the newest Education Blueprint (2013-2025), insights the importance of technology-based teaching and learning into the schools' national curriculum. This study aims to research teachers' perceptions of the effectiveness of ICT integration to support the teaching and learning process within the classroom. A survey questionnaire was distributed randomly to a complete of 101 teachers from 10 public secondary schools in national capital, Malaysia. The info for this quantitative research was analyzed for both descriptive and inferential statistics using SPSS (version 21) software. Findings indicate that teachers' well-equipped preparation with ICT tools and facilities is one the most factors within the success of technology-based teaching and learning. . It absolutely was also found that professional development training programs for teachers also played a key role in enhancing students' quality learning. For future studies, there's a desire for consideration of other aspects of ICT integration especially from a management point of view concerning strategic planning and policymaking.

KEYWORDS:

Technology effectiveness, knowledge transfer, ICT integration, educational institutions

INTRODUCTION

Teaching and learning; Technology effectiveness; In this 21st century, the term "technology" is a vital issue in many fields including education .this can be because technology has become the knowledge transfer highway in most countries. As a part of this, schools and other educational institutions which are speculated to prepare students to

measure in "a knowledge society" have to consider ICT integration in their curriculum (Ghavifekr, Afshari & Amla Salleh, 2012). Integration of knowledge, Communication, and Technology (ICT) in education refers to the employment of computer-based communication that comes with into daily classroom instructional process. In conjunction with preparing students for this digital era,

teachers are seen because the key players in using ICT in their daily classrooms. this is often because of the aptitude of ICT in providing a dynamic and proactive teaching-learning environment (Arnseth & Hatlevik, 2012). While, ICT integration aims to enhance and increase the standard, accessibility, and cost-efficiency of the delivery of instruction to students, it also refers to benefits from networking the educational. The method of adoption of ICT isn't one step, but it's an ongoing and continuous step that fully supports teaching and learning and data resources (Young, 2003).

ICT will be utilized in various ways where it helps both teachers and students to be told about their respective subject areas. That may make the training process more fulfilling and meaningful (Finger & Trinidad, 2002). On the opposite hand, students will get pleasure from ICT integration where they're not bounded to the limited curriculum and resources, instead, hands-on activities during a technology-based course are designed to assist them to stimulate their understanding of the topic. It also helps teachers to style their lesson plans in an efficient, creative and interesting approach that might lead to students' active learning. Previous researches proved that the utilization of ICT in teaching will enhance the educational process and maximizes the students' abilities in active learning (Finger & Trinidad, 2002; Jorge et al., 2003; Young, 2003; Jamieson-Procter et al., 2013). the combination approach is about implementing the proper use of ICT in a very particular field of study that involved complex concepts and skills to boost student's achievement and attainment. Besides, the review of the curriculum is additionally needed so only related ICT resources and appropriate software are installed for the most aims and objectives of the curriculum to be achieved.

The enhancement approach is about using ICT to relinquish great emphasis on the subject introduced. as an example, Microsoft PowerPoint will be accustomed present the subject in an exceedingly very innovative and inventive way which will result in discussion and exchanging ideas and thoughts. Finally, a complementary approach is when the ICT is employed to help and support the student's

learning. This approach allows students to be more organized and efficient during which they will take obtain notes from the pc, submit their works by email from home as long as they meet the deadline, and looking out for information from various sources provided online to satisfy the task given to them (Hermans et al., 2008).

Technology-based teaching and learning can make many changes in schools that need proper planning and policymaking. Researchers and policymakers must both have the identical insight into the plan. They supply a rationale, a group of goals, and a vision of how education systems run if ICT is integrated into the teaching and learning process, and that they are beneficial to students, teachers, parents, and therefore the general population of a given country. The primary policy insists on all students are allowed to use ICT. This is often aimed to cut back the digital gap amongst the colleges. The second policy focuses on the role and performance played by ICT in education. Besides that, another policy stressed the employment of ICT for accessing information, communication, and as a productivity tool (Chan, 2002).

If there's lack of technical assistance and no repair thereon, teachers don't seem to be able to use the pc for temporarily (Jamieson-Procter et al., 2013). The effect is that teachers are discouraged from using computers thanks to fear of kit failure since they're not given any assistance on the problem. Türel and Johnson's study (2012) revealed that technical problems become a significant barrier for teachers.

Teachers need sufficient ICT skills to implement the technology and to own high confident level to use it during a classroom setting. Besides, teachers require insight into the pedagogical role of ICT, so as to use it meaningfully in their instructional process (Hennessy et al., 2005). in step with Winzenried, Dalgarno and Tinkler (2010) teachers who have suffered ICT course are more practical in teaching by using technology tools as opposition people who haven't any experience in such training. a faculty in Ireland reported that teachers who failed to develop sufficient confidence avoided using ICT. Similar case happened in Canada, some teachers admitted they were reluctant ICT users because they worried

they may get embarrassed that the scholars knew more about the technology than they did (Hennessy et al., 2005). Teachers’ Belief on Technology-based Teaching and Learning With the event of learning technologies within the late 20th century, education system has changed rapidly. This is often because of the potential of technology to produce a proactive, easy accessibility and comprehensive teaching and learning environment. Nowadays, Ministry of education altogether over the globe has provide lots of facilities and training so as to reinforce the employment of advanced technologies within the countries’ teaching and learning process. A high budget has been placed so as to produce the equipment needed by teachers to boost the education system. Despite all the efforts, most of the countries face similar problem whereby the teachers aren’t maximizing the usage of the technology provided (Albirini, 2006). Many, researchers have taken an attempt to analyse the factors that affecting teachers’ acceptance of ICT usage within the classrooms (Capan, 2012; Virkus, 2008; Zhang, 2013; Dudeney, 2010). It shows that, the most important barrier of the implementation was the teachers’ belief because the teachers are the one who implements the change in their teaching and learning process. Teachers’ role is getting more important especially in usage of ICT in pedagogy which could increase the achievement of the scholars, their creativity and thinking skills. The younger the scholars, the upper their expectation are on ICT integration in classroom. It also proved that the combination of ICT is generally enthusiastic about the private factors which define as self-perceptions. This research also shows that the acceptance of ICT of teachers and students in classroom and outdoors of classroom whereby both are more likely to use technologies outside the classroom. They found that the barriers of ICT integration in classroom are confidence, competence and attitudes of teachers reduce the share of ICT integration. Results of a previous research (Cox & Marshall, 2007) shows that teachers only need a standard – centered approach when developing.

ICT SKILLS WITHIN THE CLASSROOM.

The teachers are having high confidence and competency in using ICT in classroom while it doesn’t represents the categories of ICT used. This can be because they believe that ICT may be a tool could help in learning process especially to relate with reality practices. This factor has reform the pedagogics to integrate ICT so as to form and construct knowledge for the scholars. Integration of ICT within the Malaysian Context. Accordingly, many faculties were upgraded with computer’s lab, the web connection, smart white boards, LCD and other ICT tools and equipment. However, the govt continues to be improving and upgrading the systems to be fully utilizing by ICT. As a developing country, exploration of the factors that affecting Malaysian teachers’ ICT usage in schools can help to extend the mixing of ICT in country’s teaching and learning process.

INTEGRATION OF ICT WITHIN THE MALAYSIAN CONTEXT

The integration of ICT within the classroom is getting more important because it helps student in enhancing their collaborative learning skills further as developing transversal skills that stimulate social skills, problem-solving, self-reliance, responsibility and therefore the capacity for reflection and initiative. of these elements are core values that students have to achieve in a full of life teaching and learning environment (Ghavifekr et al., 2014). Similarly, in Malaysia, the govt. has implemented the combination of ICT within the learning and teaching process within the early 1970s. this is often because of the importance of technology-literate which produces a critical thinking workforce to face and involve the country within the global economy (Hamidi, Meshkat, Rezaee, & Jafari, 2011). Despite of these, the matter faced was the teachers’ skill and aptitude, technical support, and stability of the system to implement the policy successfully. However, the govt remains improving and upgrading the systems to be fully utilised by ICT. As a developing country, exploration of the factors that affecting Malaysian teachers’ ICT usage in schools can help to extend the combination of ICT within

the country’s teaching and learning process. The newest one is that the Education Blueprint 2013-2025. This blueprint provides the plan for the sustainable educational transformation of the Malaysian education system until 2025 (Ministry of Education, 2012).

This document also includes the arrange to raise the role of ICT within the whole education system. to complete the transformation mission, Blueprint proposed 11 strategic and operational shifts. ICT has been mentioned on the 7th shift, which needs scaling up quality learning in Malaysia by providing internet access and a virtual learning environment via 1BestariNet for all schools in Malaysia by 2013 (Ministry of Education, 2012). In line with global attempts on the deeper needs of educational performance, incompetence of teachers and inadequateness of hardware and software were also recognized by the Malaysian education authority (Education and Manpower Bureau, 2008). The most goal of ICT implementation in education proclaimed the vision and missions of the govt. to push ICT in education for the subsequent intentions.

- 1) To surround schools with dynamic and innovative learning environments for college students to become more motivated and creative;
- 2) To enable students to realize a wider range of information and be able to access to the net for developing a worldwide outlook;
- 3) To nurture students with capabilities of processing information more effectively and efficiently;
- 4) To develop students with attitudes and capability of life-long learning The new era of ICT in education should be developed rapidly to an appropriate extent to match the aptitude of scholars moreover as teachers in educational experience thanks to the event of latest information technology. Results of a study by Abd Rahim and Shamsiah (2008) suggest that trainee teachers in Malaysia have the boldness to integrate ICT in their teaching practices. and also the male teachers are more confident than female teachers in using ICT integration in teaching. Moreover, it shows that vocational teachers are more confident to integrate ICT in teaching because they will handle technical

subjects and their experience enables them to integrate ICT effectively in teaching (Abd Rahim & Shamsiah, 2008; Yunus, 2007). Furthermore, only a minority of teachers in Malaysia professionally know the fundamentals of ICT.

The Conceptual Framework For this study

In light of ICT integration to reinforce a top quality teaching and learning experience in schools, two theories of Diffusion of Innovations by Rogers (2003) and Technology Acceptance Model (TAM) by Davis (2003), has been identified and adapted to the research setting because the conceptual framework for this research .the method will start with “knowledge” of the primary channel that represents characteristics of the decision-making unit by the ICT users to integrate the technology. And it ends with “confirmation” by the users to just accept the technology and integrate it accordingly.

The TAM theory comprises various parts which are representing the method of ICT acceptance by the users including; behavioral intention, perceived usefulness, and perceived easy use. While, perceived usefulness refers to the degree to which an individual believes within the take pleasure in the utilization of a specific technology by improving the task performance, perceived simple use refers to the importance of technology in being user-friendly for the users. Generally, TAM theory was developed to live the effectiveness or success of technology in helping to grasp the worth and efficacy of a selected system. it’s also considered one in every of the foremost influential theories in contemporary information systems research. However, the idea has evolved with more specific variables explaining how a user can accept a technology over the years.

The proposed framework includes various factors directly related to the core aim of the study that explains how knowledge and perceptions will affect the perceived usefulness and simple use of ICT integration. The factors embedded within the conceptual framework are meticulously interlaced so the interrelationship among them constitutes to live their effectiveness on ICT integration by teachers. However, the intention to integrate ICT by

teachers is that the main variable that supports the key elements within the above framework like ease-of-use, functionality, flexibility, accessibility, and integration. Method Research Design In this research, the quantitative methodology was used to collect and analyze the info obtained from all the respondents.

Few sections on the questionnaire were designed specifically to handle research objectives regarding the effectiveness of ICT integration for college kids in learning and effective elements of ICT integration in a very public school in Malaysian capital. Therefore, the questionnaire was distributed to get the information from the respondents.

POPULATION AND SAMPLING

The overall total of respondents for this research was 101 teachers from public primary and secondary schools in national capital. The questionnaire was randomly distributed to the respondents with teaching backgrounds no matter gender, race, teaching experience yet as highest teaching experience.

There aren't any preferences set by the researchers as long because the respondents include teaching backgrounds especially publically primary and secondary schools in Malaysian capital. Since the targeted respondents for this research are meant for people with teaching backgrounds, the researchers tried to urge especially teachers from public primary and secondary schools in Kuala Lumpur to be a part of this research. Hence, the questionnaires distributed don't seem to be equal in numbers where teachers from secondary schools dominate the population as compared to teachers from primary schools.

INSTRUMENT

A survey questionnaire with a complete of 43 items was used because the main instrument during this study to investigate the effectiveness of ICT integration in teaching and learning publicly schools in capital of Malaysia. a complete of 101 questionnaires were distributed where all respondents were asked to read the statements given and choose their answers supported the 4-Likert scale ranged

from 4= Strongly .The questionnaires consisted of 4 sections. Section A is about the demographic background of the respondents consists of 8 items that include gender, race, teaching experience, form of school, school area, preference of teaching style, highest academic qualification, and therefore the ability to handle ICT in teaching. Section B comes with 15 items that examine teacher's perception of ICT in teaching, section C consists of 10 items that scrutinize the effectiveness of ICT integration for college students in learning meanwhile section D comes with 10 items that scrutinize the effective elements of ICT integration in teaching.

The questionnaire used for this quantitative study was adopted and modified from the initial questionnaire designed by Gulbahar and Guven (2008) that's considered suitable for this research. a number of the things are designed and developed by the researchers accordingly with the title chosen so the things developed can provide the answers needed for both research questions.

DATA COLLECTION PROCEDURE

The researchers modified the questionnaire before it's being finalized and distributed to the target group of respondents. Then, each researcher takes up 50 and 51 questionnaires respectively that made a complete of 101 questionnaires being distributed to all or any respondents. the information were collected within 2 weeks through random distribution and a few of the questionnaires were sent to respondents' email. The respondents got 3-5 days to complete the questionnaire and send it back to the researcher for data analysis. After 2 weeks, all the entire filled-up questionnaires were gathered and picked up for further data analysis by the researcher to induce the output and findings for the research. Data Analysis Process All the information collected from the respondents were gathered together to be analyzed using Statistical Package for the Social Sciences (SPSS) version 21. The analysis includes both descriptive and inferential analysis. The researchers used descriptive analysis to investigate the frequency and percentage of the population within the demographic background. Besides, it's also went to determine the mean, variance, frequency,

and percentage to spot the effectiveness of ICT integration for college kids in learning yet because the effective elements of ICT integration in teaching publicly schools in Kuala Lumpur.

The findings are done in keeping with the sections within the questionnaire and some inferential analysis that has reliability testing and Mann-Whitney U testing is additionally conducted towards the information. the final population supported the facility to handle ICT in teaching, most of the respondents believe that they possess medium ability with 67 (66.34%) followed by high ability, Teachers’ Perception on Technology-based Teaching and Learning, it’s undeniable that teaching resources and materials provided online are more updated and teachers can ask them so on style more interesting and engaging lessons for faculty students. Besides, most teachers agreed that the utilization of ICT will definitely provide many opportunities for effective teaching additionally as ICT-supported teaching makes learning simpler with the sharing mean of 1.72. this case shows that teachers view the employment of ICT within the teaching and learning process as something positive where ICT is that the help needed by teachers to substantiate the effectiveness of both the teaching and learning process. a score mean of 1.75. this can be actually because students are at home with ICT which they find it easier learning by ICT and allows them to interact more within the lesson. a score mean of 1.75. this can be actually because students are at home with ICT which they find it easier learning by ICT and allows them to interact more within the lesson.

It means there are not any unhurried times provides for teachers so teachers can a minimum of use ICT for effective teaching and learning process. it’s good if teachers are given longer to show so ICT integration in teaching may be a hit. Most teachers agreed that each one ICT tools provided for his or her school attend waste with a mean of 1.98 because of teacher’s lack of information and skills in using it. Sometimes, ICT facilities are completely provided but little access to ICT prevents teachers from using it in teaching with a score mean of two.02. Some teachers feel the urge and motivation to use ICT in teaching

but there’s an absence of supports from the varsity top management that hinders and discourages them from using ICT with a mean of two.08

Besides, teachers don’t seem to be given the liberty they have to style their own teaching with the helps they received from ICT with a complete mean of two.75. Some schools aren’t supplied with a minimum of a computer laboratory within which students will get the prospect to integrate the employment of ICT in their learning process that shown a mean score of two.79. Teachers must be the liberty to style their own teaching and fill up use of ICT but they need to be remembered to stay it on course with the curriculum designed by the Ministry of Education (MOE).

Technical supports if teachers are faced with difficulties still as training and professional development are less provided for teachers about ICT use in teaching with the score mean of two.83 and 2.86 respectively. The school’s top management must find ways to produce enough technical supports still as training and professional development for teachers to make sure the successful implementation of ICT in teaching. aside from that, ICT facilities provided at school aren’t well functioning and aren’t an honest condition because it isn’t being employed by teachers with the mean of two.94 and there’s no maintenance to form sure the facilities are well taken care of by the schools’ management.

RELIABILITY TESTING

The Cronbach’s Alpha reliability testing is employed to check the interior consistency of an instrument and its items (see Table 5). it’s also considered as a measurement for scale reliability. For this study, the size used is that the Likert scale ranged from 4= strongly disagree, 3= disagree, 2= agree and 1= strongly agree. in line with Kline (1999), the foremost generally accepted value of alpha value are some things greater than 0.7, and an alpha value greater than 0.6 is ranged acceptable. For this research, the reliability test is completed accordingly by a piece that features sections B, C, and D of the questionnaire.

HYPOTHESIS TESTING

In this study, the Mann-Whitney U test is employed to check the hypothesis developed by the researcher. The test is employed to match the differences between two independent groups towards one variable quantity. Mann-Whitney U test is employed as an inferential analysis by the researcher to check the null hypothesis created by the researcher. This is often because using ICT tools and equipment will prepare a lively learning environment that's more interesting and effective for both teachers and students. However, most teachers during this study agree that ICT helps to enhance classroom management as students are well-behaved and more focused. Moreover, this study proved that students learn more effectively with the employment of ICT as lesson designs are more engaging and interesting.

CONCLUSION

The net Users in EFL Teaching and Learning in Northwest China and also the findings indicated that teachers have a positive attitude regarding the utilization of the net in teaching and learning; teachers have some knowledge about Internet use in teaching and learning; they need not well-integrated Internet into teaching and learning so far; teachers' knowledge about ICT and network technology is extremely limited. Likewise, the primary two points were just like the findings of this research, during which most teachers think ICT integration for college students in learning is effective. Because students can develop the arrogance to own better communication and also the ability to precise their thoughts and ideas; ICT helps students to be more creative and imaginative as their knowledge paradigm expands, and ICT helps students to possess all four skills in learning after they can acquire necessary information and knowledge.

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