

ICT Use In Teaching and Learning of History

An Education Review

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Abstract - History subjects are often associated with the old and static in the teaching and learning. Therefore this article attempts to highlight how aspects of Information, Communication and Technology (ICT) can be used as materials for history research and development (R & D). Teaching and learning (T & L) of history can use four techniques, there are tutorials, exploration, communications and applications. All four these techniques of T & L can use the Portal and Forum Rules, e-mail, CD ROM, history of database, word processing and presentation, and use the virtual library. Usage of ICT in R & D also had an impact and challenges for us in terms of propaganda and onslaught of globalization, the ability to access information, lack of software and courseware, the history of teacher training issues, equal opportunity to access materials, and teaching and learning issues. In short experience in European countries shows T & L by using ICT did increase interest and achievement in history subject learning. However, the usage of ICT must be carefully planned to avoid the subject of ICT being emphasized and not the content and thinking skills in teaching and learning of history.

Keywords: *ICT, T & L History.*

I. INTRODUCTION

ICT is the abbreviation for Information Communication and Technology. Sometimes the label is also used ICT. This is now commonly used abbreviation includes all technologies that are used to communicate and work with information. The highlight of this communication is then internet and mobile phones. ICT included both hardware elements and software. ICT is studying computer and information processes in terms of hardware and software. In practice, ICT deals with the analysis of algorithms and formal languages, and then goes on to more specific topics such as programming languages. We can boldly say that they are currently absolutely indispensable, because they are already used in all fields as well as state institutions. Without their help it would be difficult to operate offices, shops, banks, healthcare, transportation, manufacturing, scientific institutions, media, entertainment, cultural institutions, police, army and etc. In short, in all fields of computer works easier for people is an integral part of the state, private and business sector. In today's hurried time, information communication and technology operates in a wide range of disciplines. ICT are not only machines but also the programs and applications - because computers are only one part of the whole. ICT is also information transmission, which gave a new dimension to the internet and mobile networks, after which constantly flows an incredible amount of data, mediated communication, telecommunication networks and satellites. It has enriched the original designation of IT (Information Technology)

and involves communication between computers and networks.

II. ICT IN EDUCATION

The Malaysian schools are gradually being replaced by the subject of informatics and computer science or ICT subject, unlike the above better describes the current reality, where information and communication almost inextricably linked. Control of these technologies due to their extension to all spheres of daily life (including education) are nowadays the key competencies. Electronic learning systems also allow many forms of learning and interaction, and especially encourage discussion between students and teachers and among students themselves. One could say that ICT in education is a system which is implemented through a systematic effort to modernize the education, and there are efforts to develop the information society. Teachers use technology to support learning foreign languages, humanities or science and other educational areas and disciplines. If it can be teachers integrate technology into daily teaching, then it is an effort to strengthen the active involvement of students in their own education. It is primarily educational content and innovative, effective and quality teaching methods. The integration of ICT can talk when the following conditions: long-term teachers training in ICT, teachers and pupils routinely use ICT and are fully supported this usage. The usage of ICT in teaching by itself does not have a direct positive impact on the process of education. When the above conditions may be achieved by a situation where the usage of ICT improve learning and teaching. The usage of ICT in education at schools is not only tied to one specific subject. ICT can be used in teaching mathematics, chemistry, English language, Malay language, physics, natural history and etc. An integral part of education can also become interactive devices such as laptops, the very cheap laptops, interactive whiteboard or interactive textbook. The biggest plus point becomes the interaction between students and teachers and to prevent the existing stereotypes in education. Students are no longer just passive listeners, but have the opportunity to shape the teaching and actively involved in the process of education. ICTs which have great potential to influence school key phenomenon is a school culture. Implementation of the ICT technology thus significantly contributes to the development of schools. The key is therefore the integration of ICT into education programs, this also helps the country to the region between the core involved in their education policies. Technology is often seen as something outside of school and should continue

to be seen as an integral part of the school. ICT in itself does not cause any change but only actors in the hands of school education has become an effective instrument or means of positive change, made available to people a lot of information and opportunities and thus become the sole assistant education. The introduction of ICT in schools is a process that in essence does not end, because ICT is constantly evolving and will need to continually update, upgrade, or try their new possibilities.

Issues of teaching and learning (T & L) have a lot of discussion in seminars or a major issue in the study. R & D process will usually involve face to face interaction between teachers and students (Koh Boh Boon 2010). However, with the change in information technology, aspects of face to face is no longer fully relevant in R & D but also can occur through the manipulation of information communication and technology (ICT). It is also a catalyst in R & D (Ehwan Supangat 2005). Learning concept by using the Internet also is not new, but since 1997 the Malaysian government has launched the Smart School (The Malaysian Smart School, 1997) consistent with the idea of the Multimedia Super Corridor (MSC).

In this digital era concept of teaching and learning history through seminars, discussion, journals and student thesis at the University. Discussion on the history of many R & D focuses on the following aspects:

1. Resource-usage of digitized resources on the Internet and the digitization process.
2. Usage of Resources focuses on learning strategies that can be used in the classroom.

However, consider the public perception of history as a very boring subject that requires teachers to give as much information about the past to be remembered by students and facts recall that in the examination (H. Doreen Tan 2004).

A. Definition of ICT Concept

ICT is a term Information Communications and Technology. It is difficult to give precise interpretation due to too rapid development of ICT. However, we will focus on three words behind ICT:

- Information (Information)
- Communications (Communications)
- Technology (Technology)

Thus, ICT touches many aspects of storage (storage), retrieve, manipulate, transmission or receiving digital data. Even all these aspects of interdependence with each other. ICT in daily business is categorized into two:

1. Basic Computer-Tools Technology Personal Computers (PCs) used at home or at work. Frequently used applications are word processing (Word/Text), Cloud Works (Spreadsheets), Database (Database), Presentation (Presentation), Internet browsers, software and other graphics.
2. Digital Communication Technology-The technology that allows the public to communicate and share digital information.

III. THE EDUCATION SYSTEM BACKGROUND IN MALAYSIA

To better understand this writing it is better to look at the background of the Education System in Malaysia. Education for the Malaysian began as early as age six. Parents are free to choose the preschool is preferred. However, for parents who cannot afford, the Ministry of Education Malaysia (MOE) will provide six years of basic education.

The students will go through six years of primary education. In the sixth year at the age of 12 years all students will sit for the Primary School Assessment Test or *Ujian Penilaian Sekolah Rendah* (UPSR). UPSR examination will usually be a benchmark for the student to select schools in the country.

Secondary education will start at the student age of 13 until 17 years old. Between the age of the students, they will sit for Junior Secondary Assessment (PMR) while in form three and Malaysia Certificate of Education Examination (SPM) when in form five. PMR is usually used as a measurement of the ability of students to the streams of Science, Arts or Engineering. While SPM is used as a basis for admission to matriculation, Polytechnics or Private Colleges. Only a fraction of students will continue their studies at sixth form for Higher School Certificate examinations Malaysia (STPM).

A. History Education In Malaysia

History subject were taught as one of the subjects at the primary school, by the introduction of Curriculum for Secondary Schools (ICSS). After year 1984, history subject is being taught in secondary schools as one of the humanities area subjects. From 1992, history subject became the core subjects at form one to form five.

History subjects are further improved by inserting elements of World Civilizations since 1992 and look at the history of our own culture lens and the eyes of the west. This is to prevent our students to be like 'frog under a coconut shell' (Form Four KBSM History Syllabus in 1992).

In 2002, the Form Four History Syllabus reviewed to ensure current and relevant aspects are included. One focuses on the reform of 2002 is to prepare students to face future challenges, the changing world of information, communication and technology (ICT) and knowledge-based economy in the 21st century. Here the MOE found that they realized the potential of ICT in teaching and learning of history in the future to include aspects of ICT since 2002.

B. Teaching History

In Secondary School Integrated Curriculum or *Kurikulum Bersepadu Sekolah Menengah* (KBSM) History Syllabus Form Four (2002) has proposed several methods and techniques in teaching and learning of history. Among the proposed techniques are:

- Lecture / Sermon
- Tell
- Simulation

- Case Study
- Experiment
- Brainstorming
- Talks
- Show How
- Usage of Resources
- Outside of work
- Drills

The most popular method used in T & L is the sermon or lecture method, while the form of R & D is still teacher-centered (Subdrah Nair 2005). Performance report of History Lesson by Malaysia Examination Board also noted the students still memorize and predict certain topics without analyzing the requirements of the problem (Examination Board 2003). A case study in an Asian country also shows the usage of old methods of teaching history (Intel Education 2007) and this situation is very boring for students (McKenzie, B. 2005)

Based on the report Examination Board of Malaysia, there is room for history subjects taught by using other approaches that also involve students actively in R & D. Thus, ICT offers a very wide opportunities to make history as the subject of effective in addressing national construction and rapidly changing environment.

IV. THE ROLE OF ICT IN R & D

Usage of ICT in teaching and learning can be viewed in two aspects, namely the aspect of teaching by teachers and aspects of learning by students (Curriculum Development Centre 2001).

A. Teaching

Many suspect that ICT will revolutionize the world in the 21st century through changes in work methods, direct relationship between manufacturers and users, and access to a wealth of information resources. Aspects of education are also exposed to changes when students can access resources easily. History subjects undergo changes with the introduction of ICT in education. History teachers who are sensitive to the changes will encourage students to develop skills appropriate to the needs of the ICT world. Among the few things that need to be considered by the teacher of history are:

1. What are the determinants of the quality of ICT usage in history teaching in the classroom?
2. How does the outcomes of ICT learning of history can be combined or differentiated?
3. How planning can achieve the goal of teaching lessons?

A study in England showed whether the quality of history teaching by using ICT is applicable or not, it depends a lot on to which extent the knowledge of the subject being taught by the teacher. Teachers' understanding of how best to deliver also play an important role. Good history teacher will challenge students to think historically. Usage of ICT in the history of R & D process means how ICT helps T & L.

In recent years become a common phenomenon in the classroom teaching using teaching aids. In the context of ICT education in schools that are commonly used tool is a Notebook or PC, LCD projector, LCD screen and speakers. To facilitate the delivery of instruction shown usually results in Microsoft Power Point Presentation, Open Office Presenter. Both the software is very easy to handle and can be inhaled videos, pictures and animation. This has helped teachers simplify teaching materials in the form of a very interesting (Intel Education 2007). Some trainers also use more advanced software such as the use of Macromedia Flash. This software is quite difficult to handle but can produce a very interesting slide animations.

In addition to providing materials to use slides, teachers also use the internet in teaching. For example, the teacher provides the materials and included in the historical site. Then students will be asked to make a reference on the website provided. Teachers also provide a useful web links as part of the reference material. For this purpose, history teachers should understand the basic needs of the history learning. Teachers also must understand the basic knowledge of history and understand the needs of historical sources. Teachers should be able to help students deal with the evidence, causes and consequences of change in history. For example, some terms such as 'democracy', 'help', and 'race', determined by historical factors and vary its usage according to the place (Joke van der Leeuw-Roord 1998).

Available resources can help students construct own narratif. They need to understand the narrative to construct their own understanding of the past from different perspective (Joke van der Leeuw-Roord., 1998). This situation may be acceptable in the history of the education system in America and Europe, but the situation in Malaysia may take some time before this method can be successfully done. One of the skills that can be applied here is the source of critical thinking, ICT and the material itself.

According to Chris Durbin (Joke van der Leeuw-Roord. 1998), ICT development will have an impact on the teaching of history. For example, the ability to access large volumes of data will take students to work independently. For that they need the skills of inquiry, analyze and construct arguments. To achieve this goal we must provide opportunities for students to analyze independently the past and usage of word processing software (MS Word or Text) to write the answer to the questions raised.

Exposure to the Internet without the user can cause a loss of students in searching. Thus teachers can also use other methods of carrying out discussions on the internet. Discussions may be conducted through user groups at www.google.com or www.gmail.com. For the authors the most appropriate method is via a discussion board that is dedicated to the purpose of discussion. Among the most widely used internet for discussion and is the in vision Power Board.

Trainers can act as moderator and include reading materials, Internet links and download materials at the forum (Curriculum Development Centre 2008). Students can do the discussion and sharing of all the materials obtained by discovery on the Internet.

Validity of the material on the Internet is always questionable. Thus the skills should be given to students so that students can critically evaluate the resources received, for example through the film and print. Aspects which are emphasized by means of critical work:

1. Who wrote the source?
2. What is its' purpose?
3. To whom the writing is addressed?
4. When it was published?
5. What is the motive of the publication?
6. How about the compatibility of information source?

Simulation methods and multimedia tutorial is one of the best teaching methods if instructors understand the process of creating a suitable courseware with instructional materials (DelGaudio & Julian J. 2002).

Although many methods can be used with the usage of ICT, the Curriculum Development Centre Ministry of Education Malaysia (2001) propose R & D through four categories:

1. Tutorial
2. Exploration
3. Application
4. Communication

B. Tutorial Learning

ICT R & D in the history subject can use the tutorial method when use to deliver educational content based on the sequence of topics has been fixed (Curriculum Development Centre 2001). Tutorial method comprising:

1. Expository Learning
2. Demonstration of a phenomenon that is sequence controlled
3. Training or drills that are delivered and controlled by the system

By this method the teacher will explain carefully how to use computers and software available on CD ROM, hard disk or website (Curriculum Development Centre 2001). At the same time the students can use materials with guidance from teachers. The situation is made easier because of all the existing software using multimedia aspects.

The method is applicable when there are differences in the usage of ICT capabilities among the students and the big number of students in one class. Preparation of material through the courseware will be solution for shortage of teachers such as teachers were currently involved in programs outside the school. Even allowing various levels of training students with different abilities to test their ability according to the level provided.

C. Learning Exploration (Exploratory)

Discovery learning can happen if ICT is used as a medium for:

1. Find and access information from the CD ROM / DVD ROM and Internet

2. Learn something in the simulation
3. Demonstration of a sequence of events controlled by the pupil

Exploratory learning website was introduced by Jack Thorpe and U.S. Department of Defense to train American troops in an operation. Even Yucesan, and Chun Hung Chen web-based for simulation method (Shaharudin Md Salleh 2007) is one way to extend the simulation method in education due to nature of the Internet more accessible through a variety of computer operating systems. This study was supported by Lorenz et al (Shaharudin Md Salleh 2007) stated simulation can be a tool and a model that can be used by students but it is global in nature because of the nature that is easily accessible. This supports cooperative learning methods performed in the classroom.

Exploratory learning can be done through the provision of appropriate CD ROM or DVD ROM with History T & L apart from using the Internet. In a case study in Sweden, the history learning by using the CD ROM to be undertaken by the Museum and Archives Department in Stockholm. In the module provided, students are asked to make the questions and submit their findings. Students have been talking about that project and present the results through Power Point. Many discoveries made by students and found they were very happy with the results of their survey. While in Canada (Paquin Barfurth M & M 2007) study showed an increased interest from students because some students have the skills to use ICT tools.

By this method the students themselves to decide the information received through the medium of ICT. Hence the explanation is obviously very important that students use ICT to learn history. This method is very suitable with constructive learning approach, that emphasis on critical thinking, problem solving, authentic learning experience, and knowledge is constructed through social interaction.

This method is suitable in the following situations:

1. In the form of inquiry or discovery learning
2. Real-life problem solving
3. Future research
4. Learning simulation

This method will give an advantage to students to be more active and not teachers oriented. Teachers can adopt a constructive learning theory, various fitness and so on.

D. Application of Information Technology

Internet is a huge source of information but not everything can be used as a source of valid information from the eyes of history. In fact, the same information can be interpreted in different ways by the author's website. Aspect of "bias", the political and economic propaganda can influence the interpretation of history.

A valid search history information is not an easy task. Browser is a suitable and widely used such as Internet Explorer, Mozilla Firefox and Netcape Navigator. All these browsers can store web sites accessible (Bookmark). While searching on the internet will use search engines

like Yahoo, Google, Alta Vista and others. Methods commonly used in R & D is:

- Teacher lists the web address for the sought information.
- Master list of questions that need to be resolved by searching information on the website.
- Students will present their findings.

The most obvious in the use of ICT applications for R & D history is that we can focus on teaching topics other than sub-topics that are less stressed. For example, after conducting experiments in the study of the history of archeology students have to study the relationship between two variables. Students may need to plot a graph from which to see the relationship. It is undeniable students should have knowledge in building the graph, but in our history should manipulate some specific software to make calculations and construct graphs. Therefore, attention is not on the problem graph built but to make an interpretation and analysis of graphs and trend graphs constructed by computer software (Curriculum Development Centre 2001).

The most significant deficiency in the implementation of ICT in teaching and learning of history in Malaysia is there is no information-sharing aspects of the school or other institution in finding materials. Even if there are aspects of limited partnership to partnership in connection with the construction of examination questions or questions bank.

ICT applications in R & D history may involve the use of Internet, E-Mail, CD ROMs, databases and word processing. These applications will be explained in the next topic.

E. ICT as Tool of Communication

Communication aspects of the ICT equipment is only produced when the source of history, teachers and students can receive, send and share a history of substance in a different location. Communication is made in the form of Personal Computers (PCs), notebooks and mobile phones. Differences in the distance between resources, teachers and students are, or even across national borders and boundaries of time. Shared material can exist in the form:

1. Text
2. Graph
3. Audio
4. Video
5. Multiple modes of combination

Technical communication in R & D through four techniques below:

1. A technique (alone) - This technique is usually done through the exploration of the material on the Internet. In this technique towards the students will make access to historical sources without involving the two-way communication.

2. A technique to the A technique involves communication between students or student-teachers. This

method usually involves the usage of short messaging service (SMS) on mobile phones, E-Mail, and Chat.

3. A technique to Many - This method involves the use of E-Mail, Chat, Forum and user groups on Yahoo or Gmail (this aspect will be detailed in the next topic).

4. Many to Many techniques - techniques that are commonly used are forums and user groups on Yahoo or Gmail.

A model that can play an important role here is Collaborative Learning. Modernization of the communications infrastructure to be a student, teacher and historical sources can be on cross-border region, culture, and politics. Thus, many students in learning histories will share experiences and make comparisons with other countries. This learning method is able to open the minds (Curriculum Development Centre 2001), and makes learning a very enjoyable history students. Increased knowledge of how to communicate the results of four hopes to raise students' self confidence and thus meet the national goal to provide students who can compete globally in all the aspects of life.

It is very offensive if the student is issued by the country to ignore developments in communications technology, particularly in the scope of history. Without the open communication we may tend to produce students who are too rigid thinking and just rely on text books.

F. Usage of Information Technology Among Teachers and Students

If learning history with applying ICT as a tool in R & D history then how teachers should guide students to approach historical sources to learn? Below are among the techniques being used:

- Identify the sources of history relevant to the topic
- Extract information from several sources
- Assess the resources and make conclusions based on existing evidence
- Identify relationships, trends and design changes
- Provide information on changes and using the knowledge of history to describe specific changes in the historical context
- Divide the source into several parts and find the relation between the source
- Test the hypothesis
- Support your argument with knowledge
- Give a description and analysis of past events

In R & D history teachers should emphasize to students that the usage of ICT does not mean to make history as subjects of ICT, but ICT help facilitate understanding of the subject.

G. Internet

The Internet provides a lot of material to be accessed and shared. Curriculum Revision History since 2002, the Ministry of Education Malaysia has entered useful links for each of the topics being studied by the students. For

the purpose of writing, the writer will take a few links that history textbooks used in Form 4. Here are the links included in the students textbook:

- [Http://ancienthistory.com/](http://ancienthistory.com/)
- [Http://sejarahmalaysia.pnm.my/](http://sejarahmalaysia.pnm.my/)
- [Http://www.historian.net/hxwrite.htm](http://www.historian.net/hxwrite.htm)

V. CONCLUSION

Information, communication and technologies are the future and it becomes an integral part of information technology in teaching and learning of history. The situations are placed increasing demands on information literacy, and most schools are already fully utilised information technology. As a summary should therefore be said that ICT is an integral part of all branches of our interest and our helpers in everyday life. The Internet provides a lot of material to be accessed and shared. Since 2002 History Curriculum Revision, the Ministry of Education Malaysia has entered useful links for each of the topics being studied by the students.

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