

# Mgt of creativity and innovation in education



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APPENDICES THE REVIEW OF LITERATURE This paper evaluates the impact of ICT usage as teaching and learning tool by observing two teachers in using ICT in their lessons. The conclusion was based on the lesson's observation, interviews of two teachers and other references. .

Introduction Information and communication technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy. Per our Deputy Prime Minister Tan Sri Muhyiddin Yassin in his speech during the launching of ICT in education policy in Oct 2010, Malaysia will make ICT as the prime enabler in the teaching and learning process.

Thus, it has further reinforced the importance of ICT application in teaching and learning by our government. However, the adoption of ICT in current education system has yet to be proven. Hence, a study of the effectiveness of such ICT application will be deemed important in understanding the impact and also implication to the student's learning process.

## 2. Data collection methodology

Data was collected by conducting observation of two teachers using ICT in classroom teaching. Interviews were then conducted with the teachers to understand the effectiveness, roadblock and potential challenges faced by the teachers.

Comments were then further validated with the analysis report and also record of the report card. Recommendations were suggested for improvement as well as resolution to the challenges faced. Two teaching lessons were observed. The observations of each lesson were captured and screenshot of the software applications used were also taken. Each process step was divided into 10 minutes interval and activities done by the teachers/ students were noted. Elaboration of how the ICT was used in each process is presented in table format as Table 1.0 and Table 2.0.

## 3. Lesson #1 – ICT in teaching Mathematics . Introduction: ICT in teaching Mathematics

Ittigson & Zewe (2003) cited that technology is essential in teaching and learning mathematics. ICT improves the way mathematics should be taught and enhances student understanding of basic concepts. Many researchers have carried out studies to evaluate the benefits of using ICT in mathematics. Becta (2003) summarized the key benefits – ICT promotes greater collaboration among students and encourages communication and

the sharing of knowledge. ICT gives rapid and accurate feedbacks to students and this contributes towards positive motivation.

It also allows them to focus on strategies and interpretations of answers rather than spend time on tedious computational calculations. ICT also supports constructivist pedagogy, wherein students use technology to explore and reach an understanding of mathematical concepts. This approach promotes higher order thinking and better problem solving strategies which are in line with the recommendations forwarded by the National Council of Teachers of Mathematics (NCTM); students would then use technology to concentrate on problem-solving processes rather than on calculations related to the problems (Ittigson & Zewe, 2003). . Summary of lesson#1 review Lesson one was conducted by Teacher Lim from SJK (C) Sin Ya on Standard 2 Mathematics using the MyCD (CD ROM) provided by Ministry of Education following the integrated curriculum for primary school. The content of the CD was shown via a projector from a laptop operated by Teacher Lim. When Teacher Lim entered to the classroom, firstly he had to boot up his laptop and project his laptop screen via a projector to the white screen. He will then explain to the students on what he will be delivering for the lesson. Students were excited to hear that he will be using the CD to teach.

The topic that he will be teaching is the topic on “ Time”. The content of the CD is actually following the text book. Teacher Lim will then navigate the content per the flow of the text book. | Time | Activities | How ICT was used | Screen Shot | | 3. 15pm | Teacher explained to the students | Teacher entered to the |[pic] | | | about the topic that he was going | class and set up

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the projector and laptop to display the content of the CD. First screen is the main menu. 3. 0pm | Teacher navigated through the CD | The CD is a companion CD and opened the main menu. After that comes with the text that, teacher pointed to unit 7 | book to allow interaction | “ Time” to launch to the next | with the students. | screen. 3. 30pm | Teacher first launched the textbook | Teacher navigated the link in order to go the detail | screen using the mouse | content of the of the text book. | pointer and double clicked | on the “ textbook link”. 3. 35pm | He then asked the student to turn | While launching the 1st | the text book according to the | topic in “ Time”, students | topic that will be discussed. | were requested to turn to | Teacher first played the | page 14.

After that the “ Introduction to the Time” | teacher clicked on the 2nd | topic on how to read time | to five minutes. 3. 0pm | The teacher launched the screen and | Teacher navigated the | let the animation to start. Teacher | screen and once the mouse | pointed to the clock tower and | pointer turned to “ | pressed “ play” button from the |, that means there was a | bottom play menu. program can be played. In | this case, the teacher | pointed it to the clock | tower. 3. 5pm | The teacher explained how to read | Teacher clicked “ play” | the clock and asked the student | button at the clock tower. | about the time and what activity | The speakers were turned on | can be done at that hour. For | and audio jack was | example the students shared on what | connected to the laptop. | they do at 5. 30pm. | 3. 50pm | Teacher paused the program and had | While playing, the |

some interaction with students to | animation of the graphic | | | | talk about activity for that hour. came with voice narration | | | | He also shared by asking the | to provide example of | | | | students on where was the hands and| activity that could be | | | | minutes by giving a time. | done. | | | 4. 0pm | After the time introduction, | Teacher clicked at the |[pic] | | | teacher proceeded to the exercise | bottom left menu and return| | | | available from the CD and allowed | to the previous Unit 7 | | | | the students to have a group | menu. He then clicked on | | | | exercise. the “ My exercise” to open | | | | up the exercise activity. | | | 4. 10pm | Teacher invited the students to try| Teacher pointed the pointer|[pic] | | | the challenges set in the CD. | to “ challenge” to start the| | | | exercise. | | | 4. 0pm | Column A would be matched to the | Teacher assisted to map the|[pic] | | | column B. Student were requested to| column A to answer in | | | | choose the answer. | column B. | | | 4. 30pm | Teacher discussed the answer and | Once all the column A were |[pic] | | | explained the solution to the | mapped to column B.

The | | | | students. | program proceeded to next | | | | challenge. Until the all | | | | the challenges completed, | | | | scores were calculated. | | | 4. 0pm | Teacher also showed various | Various functions available|[pic] | | | functions in the menu to the | including weblink, more | | | | students so that they could try | challenges and my | | | | them at home. The class ended after| dictionary. | | | | 90 minutes of sharing. | | 4. Lesson #2 – ICT in teaching English 1. Introduction: ICT in teaching second language Lesson two was conducted by Teacher Ooi by using eTuition module from the eduWebTV (www. eduWebtv. com) as launched by Kementerian Pelajaran Malaysia. It has many modules and subjects available for the teachers to share with the

students. In this case, Teacher Ooi uses the English Module to conduct the teaching of grammar which is “ Simple Present Tense” for her standard two students.

The class was conducted in multi media lab that has the visual and audio capability. In addition, the lab was also equipped with internet access that allows the teacher to access the website. There are four types of video available namely news, special program, curriculum and guide. The video that was viewed by the teacher is from curriculum category for primary student in English. Refer to Figure 1. 0 for the menu selection (circled in red). The whole lesson took about 60minutes. | Time | Activities | How ICT was used | Screen Shot | | 3. 5pm | Teacher will first explain the | Teacher Ooi will first need| | | lesson that she is going to teach | to set up the projector and| | | that will be part of the syllabus | internet connection before | | | for English teaching in Standard | she could launch the [[pic]] | | | Two.

She will briefing explain the | website via internet | | | process of how the lesson will be | explorer. She picked the | | | conducted. First she will play the | “ Simple Present Tense” | | | video and will pause from time to | modules for her to start. | | | time to ask question and elaborate | The video will play about | | | within the interval. | 2minutes. | | | | | 3. 0pm | She paused and asked for other | Video was paused for [[pic]] | | | examples that the students can do | further elaboration and | | | every day. | teaching. | | | 3. 0pm | The following explanation on | The video will be played [[pic]] | | | subject verb agreement was further | and paused depends on the | | | explained by the video and teacher | needs by the teacher to | | | paused the video to provide more | elaborate. If it is not | | | examples. clear, the <https://assignbuster.com/mgt-of-creativity-and-innovation-in-education/>

video can be ||| replayed to the section ||| that needed to be repeated. ||| 3. 40pm | This is the screen shot of the | The screen shot was paused |[pic] ||| example of Singular verb. Teacher | for further elaboration. ||| provided with more examples and ||| asked the students to share as | ||| well. ||| 3. 45pm | Next example was given on plural | The screen shot was paused |[pic] ||| verb. Plural nouns were also | for further elaboration. ||| shared. Teacher will asked the ||| students the meaning of plural. ||| 3. 50pm | The following illustration was to | The screen shot was paused |[pic] ||| combine the singular verb and | for further elaboration. ||| singular subject.

Again, teacher ||| paused the video and explained in ||| more detail the structure of the ||| sentence. ||| 4. 00pm | The next activity is on the plural | The screen shot was paused |[pic] ||| subject followed by plural verb. for further elaboration. ||| Teacher again will provide more ||| examples of the sentences. ||| 4. 10pm | The last activity is for the | The screen shot was paused |[pic] ||| teacher to run through some test | for further elaboration. ||| from the video.

She paused each ||| sentence and get one of the ||| students to answer the question. ||| 4. 15pm | Lastly the teacher replayed the | Replay the whole video for |[pic] ||| entire video just to recap the | refreshment. ||| learning for everyone. ||| 5. Rationale of inclusion of ICT elements in the lessons During the interview with the teachers, the teachers were asked about the rationale of why ICT was incorporated into their lessons. There were 6 reasons given by the teachers given their various views of how ICT



can benefit the teaching and learning process in the subjects that they were teaching.

Both teachers concluded that the ICT implementation in education was part of the Education Development Plan 2004-2010 as well as the 10th Malaysia Plan. According to the 10th Malaysia plan in the area of developing and retaining a first-world talent base, the use of information and communications technology (ICT) in schools will be given greater emphasis to nurture creativity and innovation among students, in order to equip our students with new skills and capabilities to meet the demands of a high-income economy. It was also called out as the directive from the Ministry of Education.

From the learning using CD ROM which was long use in the early days of ICT in teaching and learning, one of the benefits will be the interactivity of the software content which allows repetitive learning especially for the slow learner as well as countless evaluation and rapid and accurate feedback. Scores could be monitored to track the learning progress from a student. This type of learning can be self paced and hence will reduce the teaching resources. It was also commonly used especially in the computer lab of the school. Both lessons were conducted with rich multi-media experience.

This will ensure the attention can be captured by the students especially the student nowadays that are used to computer based learning. Either CD ROM or video are among the popular ICT tool in teaching. For the CD ROM based learning, the CD ROM were given to the students so that they could use it at home. Teacher used it as a guide to enable the students to study the same

topic at home at their convenience. That way students can repeat or playback as many times as they wish to enhance the learning at home. For the CD ROM based teaching, the content of the CD is based on the curriculum outlined in the textbook.

It is also believed that the learning especially in Mathematics can be reinforced when the student practice them at home. Furthermore, most of content developed in video or CD are designed and written carefully by the educationist and also the professional. The syllabus was endorsed by the Ministry of Education and thus it will ensure that the learning is consistent with the curriculum set as a whole. 6. Barriers in implementing ICT in teaching As mentioned by the Education Development Plan for Malaysia 2001-2010, among the issues and challenges faced in the ICT implementation per the clause 8. 2-8. are also among some of the feedback from the teachers as well. Among the issues faced by the teacher is the familiarity of using the technology especially connecting various equipment together such as projector, screen, laptop. Any of the equipment failure will cause the class not able to proceed. Furthermore, there is lack of technical support in the school such as technician to assist the teacher if the equipments are not working. This is a very common issue faced during the implementation of ICT policy in school. The training from the school on how to use the ICT technology is also lacking especially to the teacher.

Another issue mentioned by the teacher is the packed syllabus that the teacher has to finish and there is not enough time for teacher to allocate time for ICT. The teacher also feedback the real physical challenges is to set up the laptop and projector in the class room which takes time and the

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teacher would need to send back the trolley back to the teacher's room. The time to transfer the equipment, set up and dismantle has taken the time from the lesson. There is also argument from the teacher who thinks that it would be better to spend time to deliver the lesson instead of wasting the time in logistic.

Internet access is also another gating factor for any ICT tool which requires the access of internet. The students need to go to the multi-media lab in order to conduct the class which requires access to the internet. Due to limited lab, all classes would need to share the resources and therefore the frequency of using the lab is limited for each class especially to be shared with other subjects as well. The teacher also echoed to the problem statement from the Education Development Plan for Malaysia 2001-2010 clause 8. 4 that the integration of ICT to enhance curriculum is a challenge if there is no guidance from the Ministry of Education.

There are many resources available in the market, from the ministry, internet.. etc. It is very teacher dependent on the effectiveness of the ICT delivery and teacher needs to take a lot of initiative to survey, research to develop the activity. From the student perspective, one of the challenges is for the student to perform the research via internet. Even though the penetration rate in Malaysia is 66% in September 2010, those students who do not have internet at home cannot complete their assignment if the teacher were to give them assignment that requires internet access. 7.

Evaluation on the effectiveness of ICT as creative and innovative tools in lessons observed Although both teachers are using different ICT tool ie. one

is using CD ROM whereas another is using the internet webTV, the usage model is quite similar. Teaching using CD ROM is appropriate and effective for the Mathematics and English lesson. However, adjustment are required for both lesson. For Mathematics session, the teacher will still need to include homework for the student to practice. Feedback received from the students that the video from the webTV is less interactive as only the teacher is leveraging on the video to deliver the content.

Although the teacher paused the video and perform some exercise, the interaction is less compared if the teacher were to deliver the content herself. From the students responses, the session for Mathematics and English were well received though the environment was not at the optimum level. There are lots of distraction as the classroom and lab are not sound proof though the multi-media lab environment is a little better given it is enclosed and air conditioned. However, the noise level can be further reduced to improve the student attention.

To a certain extent, the lesson delivered for both sessions met its objectives in delivering the message and learning. During the session, both teachers have used other pedagogies to enhance the delivery. For Mathematics session, some time were wasted in setting up the laptop and projector. For the English session, watching the webTV is a new experience however it required intervention from the teacher to elaborate and perform exercises in the interval. It is also recommended for both sessions to have some group activities to complement the understanding of the lesson taught. 8.

Conclusion

As mentioned by our Deputy Prime Minister, Tan Sri Muhyiddin Yassin during the launch of the Information Communication and Technology in Education Policy (Oct 2010), information communication technology (ICT) will be the prime enabler in the teaching and learning process. There will be 39.5 Billion Ringgit allocated during 2011 budget to restructure and strengthening the education and training for both Ministry of Education and Higher Education Ministry of which the ICT investment will be part of the expenses. This heavy investment has further reinforced the importance of ICT to education.

However, it is also important to note that the ICT is just a tool or a mean to impart the knowledge to the students. The effectiveness of utilizing the technology depends on many factors including the ICT skills, aspiration, infrastructure as well as good curriculum. [Total count of words: 3024]

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Figure 1. 0 Educwebtv menu