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Integrating Video to Enhance Learners' Understanding

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Abstract: Many experts believe that with solid technological infrastructure, effective and meaningful ICT integration in the lecture rooms can be a reality. There are so many devices and courseware produced in this technological era. One of the most famous methods of teaching through ICT incorporation is the use of video. However, many of us may still consider whether the application of video may be able to enhance learners' understanding of the subject matter. Thus, this study aims to explore the potential use of video in enhancing learners' understanding of the Islamic Studies Subjects. This study adopts both qualitative and quantitative research methods. It is found that there is a positive outcome in learners' understanding of the subject through the extension and elaboration of their points in the answer sheet. Their marks has also increased; a sign that their understanding has improved.

Key words: ICT, Understanding, Islamic Studies Subject, Video

INTRODUCTION

Science and Technology is undeniably important and central in any aspect of national and international development. When Science and Technology is translated into innovations which are applicable to benefit the nation and the Ummah, then only it is considered useful (Anuar and Abu, 1997). As for example, Abdul *et al*. (2002) suggest that IT can help in the exploration of knowledge when we are accessing information from the CD-ROM where we can feel, learn and analyse the phenomena viewed. Chitanana, 2009; Lockias Chitanana and Musingarabwi Starlin, 2011; M. Z. Mohd Zin, 2012 states rapid changes in information technology systems, managed to combine the study of learning, using computers. With the concept of education is an instrument of social change and development, computer technology is used as an instrument to raise the dissemination of knowledge in education. In reference to the Islamic history, technology has long been part of its integral development. Islam has never stopped or detest technological advancement especially those which can be very beneficial to the field of education (Abu and Siti, 1999). Islam always encourages research and meticulous observation to search for new findings in the areas of technology to be used in our daily life (MDeC, 2007). Allah SWT has explained in the Holy Quran:

"Behold all that is in the heavens and on earth"; but neither Signs nor Warners profit those who believe not" (10:101)

"Do you see that God has subjected to your (use) all things in the heavens and on the earth, and has made Hid Bounties flow to you in exceeding measure, (both) seen and unseen? Yet there are among men those who dispute about God, without knowledge and without guidance, and without a Book to enlighten them!" (31:20)

Allah SWT has made sciences available for us to explore and learn from its signs in the form of various phenomena like the transition of night and day, the creation human body and all other creatures on this earth. We have to find and accumulate the information and knowledge prepared for us so that we will be closer to Him, the Almighty. Although ICT is highly encouraged, its incorporation in teaching and learning is only possible when all proper equipments and technological infrastructures are ready to be exploited to the maximum. UiTM Penang and its top management are highly inspired by science and technology. Access to knowledge are made available to all staff and students as the university is equipped with wireless internet connection and all lecture rooms are furnished with high quality LCD projector as well as the audio system. To maximize the readily available teaching and learning resources, this study seeks to explore the effectiveness of using video to supplement existing lecture in increasing learners' understanding.

Problem Statement:

A study by Carnagie in 1994 suggested that low expectations of students, heavy reliance on outmoded or ineffective curricula and teaching methods, poorly prepared teachers, weak linkages and ineffective school resources were among the reasons why schools performed poorly (Lovat, 2007). The teachers' poor performance is mostly due to their stubborn practice of depending on the conventional lecture approach.

One way communication, based solely on notes and textbooks, very theoretical, memorization in absence of understanding are some of the limitation found in conventional lecturers (Damodharan and Rengarajan, 2007). Traditional lectures only make learners passive. It was reported by Feden and Vogel (2003) that Middendorf and

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Kalish in 1996 have cited studies which indicate that adult learners can only focus to the maximum of 20 minutes only in a lecture. Authoritarian teachers will only make students passive as they rarely communicate, think and even far from being creative and innovative. Thus, a learner-centred active pedagogy is the sound solution to improve this condition (Maimun *et al*, 2011).

The birth and growing phase of computer technology in education has helped reduce the burdens and limitations of existing traditional learning methods (Jamalludin and Zaidatun, 2003). The advancement in ICT has affected teaching profession as learning has gone and need to go beyond the traditional lectures. Learning process has become a creative hands-on process where knowledge obtained is retained for a longer period of time, if possible forever. Because of this, teachers need to be attuned to the latest technology (Maimun *et al*, 2011).

As teachers is the active agent of learning, Maimun *et al*. (2011) further suggest religious teachers and lecturers have to practice ICT which is in line with the needs of Islamic education in ensuring that its teaching receives proper assimilation into the students' life. With technology, conceptual change is a need. "Conceptual change means the students do not only retain facts, ideas and concepts, but also are able to understand them, and put this ideas, facts and concepts to use" (Feden and Vogel, 2003). Thus, the change also requires a move away from the traditional teaching methods. Given such a condition, the educational practitioners need to be convinced that ICT integration such as video can be pedagogically useful. This study aims to shade light into the effectiveness of video incorporation in Islamic Studies Subjects.

Literature Review:

Constructivism and Social Constructivism have generated the idea of "computer as a tool". It no longer replaces the traditional role of teachers but rather supports various pedagogical approaches. It evokes the idea that knowledge construction in learners' mind is based on discoveries. Learning happens when knowledge is constructed and applied to new conditions. A knowledge constructed by the learners will be much more meaningful than what is told. Thus, it results in better retention. Teachers' role is however to facilitate students' exploration and discovery (Victor, 2000).

Witnessing the human creation from the meeting of a sperm and an ovum to the human creation is certainly far more exciting than an oral lecture on how we are created. Griffin (2011) explains energizing, engaging and exciting experiences during learning through the manipulation of audio and visual elements in video is capable of stimulating emotions and helps explain concepts.

He further suggests that engaged students are more interactive and joyful in learning as well as retain information easily. The National Teacher Training Institutes (2011) believes that teachers, who use instructional video report that their students retain more information, understand concepts more rapidly and are more enthusiastic about what they are learning. Students often make new connections between curriculum topics and discovers link between these topics and the world outside the classroom.

A large scale survey by Christine Canning Wilson proves students preference for videos use in their language learning sessions as video clues have supported their understanding. Aspects such as visuals illustrations, pictures, perceptions, mental images, figures, impressions, likenesses, cartoons, charts, graphs, colors, replicas, reproductions help reveal the immediate meaning in language. Then helps the learners understand clearly the intended message conveyed through the paralinguistic cues (Wilson, 2000). Klass (2003) reiterates streaming media such as video and audio can help learners understand complex concepts and procedures that are difficult to explain with simply text and graphics.Wilson supports that video provides contextual clues which can make students understand a concept better.

The uniqueness of video in allowing students to go on a journey which is impossible in reality and its ability to present complex and abstract concept through animated 3D images make it preferable in most classrooms learning (National Teacher Training Institute, 2011). Encoding information into long-term memory which reflects learning starts when the sensory register is exposed to the stimuli. This stimulus is later moved to the working memory. The information needed will then be processed actively and stored forever in the long-term memory (Feden and Vogel, 2003).

Methodology:

This study involved 30 students undertaking CTU 211. CTU 211 is a religious subject focusing on Islam and Sciences, taught to Diploma students in Bahasa Melayu. This study sought to explore video's potential use in assisting the lecturers to increase students' understanding and focus. It is a case study where it adopts the triangulation of qualitative and quantitative research methods. Triangulation of these different data collection methods; quizzes and questionnaire allows deeper analyses of the findings. The findings were then reported quantitatively as well as qualitatively. The video clips were used to support the lectures and explanation given by the lecturer. There were 3 video clips trimmed to about 6 to 10 minutes each using Power Director Software on the theme of universe, human being and other creations. The subjects were given a general quiz after the given ordinary lecture and again the similar question is given after they have watched the chosen movie

segments. Then, comparison of marks was done between the first and second quizzes to spot any increment or decrement. Extension in students' answers may suggest better understanding on the students' part. The quizzes were marked by two lecturers; the class's lecturer teaching the subject and another experienced lecturer who has taught the subject in the previous semesters. Both lecturers have 3 and more than 10 years of teaching experience respectively.

Findings and Discussions:

The marks given by both lecturers for all the 60 answer scripts (30 Quiz 1 and 30 Quiz 2) were the same which means both lecturers agree on awarding the same marks to all the students. From the analyses done, it was found that, 60% of the students showed an increase in their marks when taught using video incorporation. The breakdown of the increment in their marks (%) is as follows:

Table 1: Increment Breakdowns in the Students' Mark between Quiz 1 and Quiz 2.

Amount of increment (%)	Percentage of respondents (%)
30	3.3
20	6.7
15	10.0
10	13.3
5	26.7
0	40.0

26.7% of the students showed a 5% increase followed by 13.3% experienced 10% increment, while another 10% gained 15% increment. However, only 6.7% revealed as much as 20% increment and 3.3% of the students showed 30% increase in the marks. This was found to be the highest amount of increment gained by the students after they were taught using video segments. It is remarkable that majority of the students scored higher marks when taught through video incorporation.

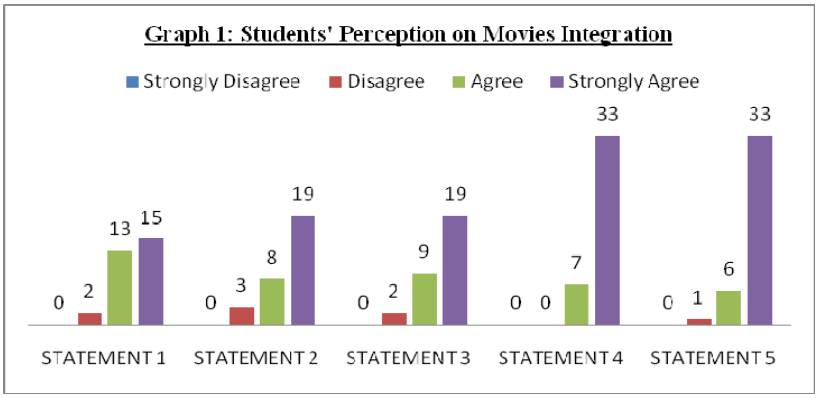
The mean marks for the pre test was 4.03 while the mean marks for the post test increased to 4.70. Paired t-test performed revealed that, there was a significant difference between the marks before and after using video incorporation (p value-0.00).

This significant increment suggests that the students give more elaboration to display their understanding of the topic when answering the question. This also suggests that the students have understood the topic better than before. This result similar to the students' perception of movies integration efficacy in Islamic Studies classroom when they were asked to rate their level of agreement and disagreement on the following statements:

Table 2: Statements in the Questionnaire.

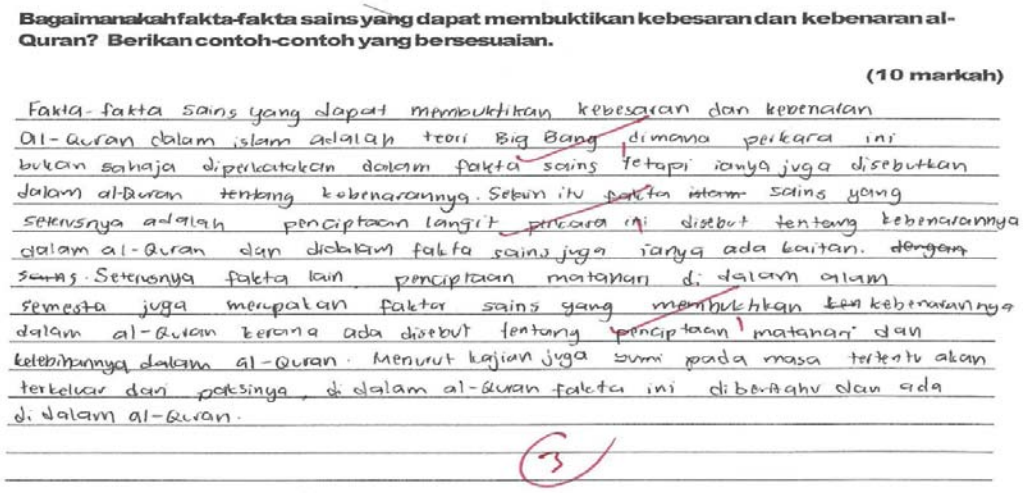
STATEMENTS
1. Dengan menonton klip video, saya lebih memahami akan subjek ini I understand the subject better with video integration
2. Klip video dapat menambahkan motivasi saya untuk lebih fokus ketika di dalam bilik kuliah I am more motivated to focus during lectures if there are video clips
3. Klip video membantu saya mengingati fakta sains dengan lebih baik I remember sciences facts better with video integration
4. Semua subjek CITU wajar diselitkan dengan klip video bagi menambahkan minat pelajar All Islamic Subjects should incorporate video elements to attract students' interest
5. Semua subjek CITU wajar diselitkan dengan klip video bagi menambahkan kefahaman pelajar All Islamic Subjects should incorporate video elements to increase students' understanding

The students were asked to rate in between scale 1 (strongly disagree) to 4 (strongly agree). The findings were as follows:



As can be seen more than 90% of the subjects agree to all the five statements. They believe that they understand better with video integration rather than traditional lecture alone. They also agree that they can focus and remember facts better when these facts are explained through visual stimuli. They also suggest that all Islamic Studies subjects should adopt video incorporation to attract interest and increase understanding of the students.

Findings also showed that these agreements were not merely opinions. Taking one of the students' essays, it can be seen that the extension and further elaboration are rather evident (as referred to Figure 1 and 2 below). For example, the answer script for a student below is one of the proof of this extension and elaboration of ideas. Initially, in Quiz 1, the student obtained 3 marks based on his general ideas. One of the examples cited to answer the question "How do sciences prove the truth as displayed in the al-Quran. Give appropriate examples" is the Big Bang Theory where it was merely mentioned by the lecturer during the lecture. This idea is further elaborated in Quiz 2 where the student has mentioned how the Big Bang happened. This is obtained through the movie segments on how the universe was created.

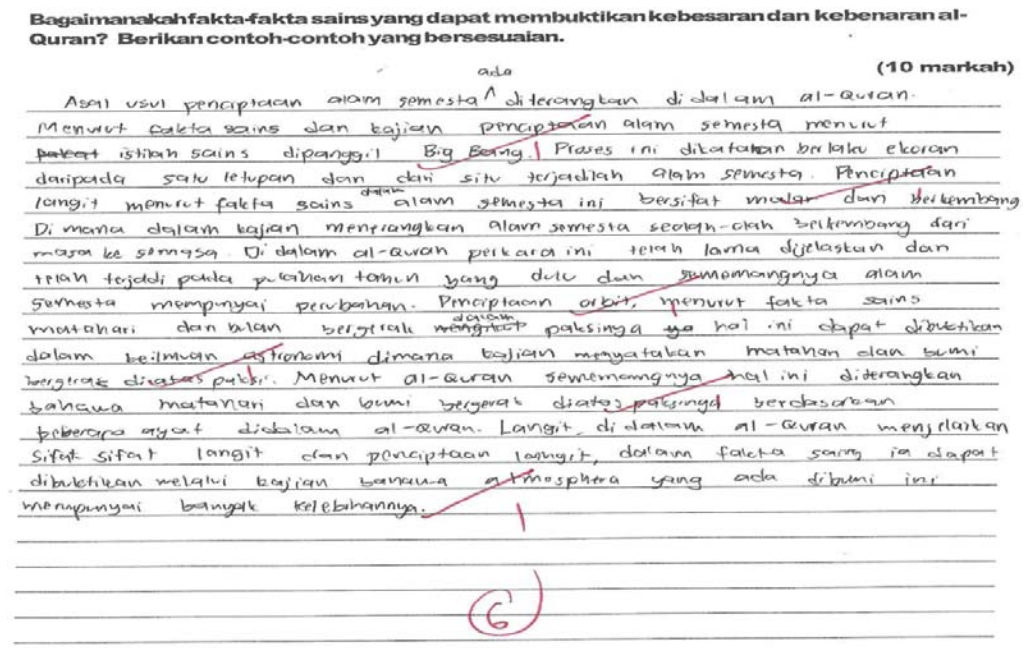


Bagaimanakah fakta-fakta sains yang dapat membuktikan kebesaran dan kebenaran al-Quran? Berikan contoh-contoh yang bersesuaian.

(10 markah)

Fakta-fakta sains yang dapat membuktikan kebesaran dan kebenaran al-Quran dalam islam adalah teori Big Bang dimana perkara ini bukan sahaja diperkatakan dalam fakta sains tetapi ianya juga disebutkan dalam al-Quran tentang kebenarannya. Selain itu ~~fakta~~ ~~islam~~ sains yang seterusnya adalah penciptaan langit ~~perkara~~ ini disebut tentang kebenarannya dalam al-Quran dan didalam fakta sains juga ianya ada kaitan. ~~dengan~~ ~~sains~~. Seterusnya fakta lain penciptaan matahari di dalam alam semesta juga merupakan faktor sains yang membuktikan ~~kan~~ kebenarannya dalam al-Quran kerana ada disebut tentang ~~penciptaan~~ matahari dan kelebihannya dalam al-Quran. Menurut kajian juga bumi pada masa tertentu akan terkeluar dan paksinya, di dalam al-Quran fakta ini diberitahu dan ada di dalam al-Quran.

3



Bagaimanakah fakta-fakta sains yang dapat membuktikan kebesaran dan kebenaran al-Quran? Berikan contoh-contoh yang bersesuaian.

(10 markah)

Asal usul penciptaan alam semesta ada diterangkan didalam al-Quran. Menurut fakta sains dan kajian penciptaan alam semesta menurut ~~pakar~~ istilah sains dipanggil Big Bang. Proses ini dikatakan berlaku ekoran daripada satu letupan dan dari situ terjadilah alam semesta. Penciptaan langit menurut fakta sains dalam alam semesta ini bersifat ~~malar~~ dan berkembang. Di mana dalam kajian menerangkan alam semesta seolah-olah berkembang dari masa ke semasa. Di dalam al-Quran perkara ini telah lama dijelaskan dan telah terjadi pada puluhan tahun yang lalu dan ~~sumamangnya~~ alam semesta mempunyai perubahan. Penciptaan orbit, menurut fakta sains matahari dan bulan bergerak ~~mengikut~~ dalam paksinya ~~ya~~ hal ini dapat dibuktikan dalam keilmuan astronomi dimana kajian menyatakan matahari dan bumi bergerak ~~diatas paksi~~. Menurut al-Quran sesungguhnya hal ini diterangkan bahawa matahari dan bumi bergerak ~~diatas paksinya~~ berdasarkan beberapa ayat didalam al-Quran. Langit di dalam al-Quran menyatakan sifat sifat langit dan penciptaan langit, dalam fakta sains ia dapat dibuktikan melalui kajian bahawa ~~atmosphera~~ yang ada dibumi ini mempunyai banyak kelebihannya.

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Conclusion:

The researchers are not suggesting nor exaggerating the effectiveness of the use of video integration in Islamic Studies classrooms as many factors are involved in influencing everyday teaching and learning processes. However, where it is seen as fruitful, it is worth the effort to add this to our pedagogical repertoire as a variety of teaching style may add colour to everyday learning experiences.

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