DEVELOPING THE j-QAF e-LEARNING APPLICATION FOR CHILDREN ON ISLAM’S OBLIGATORY DUTIES (FARDHU AIN) UNDER THE TOPIC ‘IBADAT’

A thesis submitted to the Graduate School in partial fulfillment of requirements for the degree of Master of Science (Information Technology) in Universiti Utara Malaysia

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Computer Aided Learning (CAL) has become the learning style at school and high institution. If before this, teachers used blackboard and textbook, but nowadays teachers have been exposed with computer as an effective and interesting way. In Malaysia, utilization of computer was started in 1966, as long as it introduced, government try to apply it various field such as business, education, and life. Much effort has been done by government to increase the student skill in computer. In 1980’s, government introduced computer club through the co-curriculum activity at schools. In RMK-9, smart school project has been introduced by stages. It includes three things, which is ICT hardware that supply to school, specific software and system application and also guidance for school admin, teacher, parent and community places. Learning through e-learning has been used at whole school in Malaysia either through CD ROM or online e-learning. The objective of this research is to help children understand the “ibadat” topic via j-QAF e-learning application. j-QAF e-learning application is developed by using dual coding theory by Paivio 1986, working memory theory by Baddley 1992 and cognitive load theory by Chanddler & Sweller 1991. In fact of design, multimedia learning theory by Richard Mayer has been used to make sure design of e-learning can be understood by children. All the theory are related each other to develop the j-QAF e-learning application. Dual coding theory explain that human brain in analyst information used two ways which is human’s process information through dual channels, one auditory and the other visual. So based on this theory, researcher has been developed e-learning with included two elements which is visual and verbal (auditory). It because according working memory theory human brain can actively process during learning process. But human brain can’t accept all the information that has been presented. So cognitive load theory has been used to assess that amount of information is limited to be process. Based on the three theories, so multimedia learning theory by Richard Mayer has been developed which is multimedia principle, spatial contiguity principle, temporal contiguity principle, Coherence Principle, Modality Principle, Redundancy Principle, and Individual Differences Principles which can balance the human brain. Evaluation session has been done at Sekolah Rendah Kebangsaan Kupang.
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All praise is due to Allah, Most Gracious and Most Merciful. Without help and mercy, I would not have reached this far.

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DEDICATION

To my mum Rohimi binti Tuajin,
My dad Aziz bin Man,
My sister Nurul Nadwan,
My fiance Mohd Bukhari Bin Mustafa,
for their love, patience, and support.
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<th>Description</th>
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<tbody>
<tr>
<td>ADDIE</td>
<td>Analysis, Design, Development, Implementation and Evaluation</td>
</tr>
<tr>
<td>CAL</td>
<td>Computer Aided Learning</td>
</tr>
<tr>
<td>CD-ROM</td>
<td>Compact Disc</td>
</tr>
<tr>
<td>CLT</td>
<td>Cognitive Load Theory</td>
</tr>
<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>j-QAF</td>
<td>Jawi, al-Quran, Arab, Fardhu Ain.</td>
</tr>
<tr>
<td>LAN</td>
<td>Local Area Network</td>
</tr>
<tr>
<td>MUDPY</td>
<td>Multimedia Design and Planning Pyramid</td>
</tr>
<tr>
<td>T &amp; L</td>
<td>Teaching and Learning</td>
</tr>
<tr>
<td>TV</td>
<td>Television</td>
</tr>
<tr>
<td>VCD</td>
<td>Video Compact Disc</td>
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<tr>
<td>WAN</td>
<td>Wide Area Network</td>
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CHAPTER 1

BACKGROUND OF THE STUDY

Nowadays, information can be retrieved faster through digital process due to the development of technology. Many companies around the world try to conquer some technology parallel to the development. According to Norkumala Awang (2006) development of information technology enables people to receive information easier. In this information era, education plays vital roles in our life. Without knowledge, we will be left behind from others. Education field also undergoes the revolution of modification. From traditional teaching method which includes the use of chalk and blackboard, we use computers in the classroom. Baker (2005) claims that this approach changes the pedagogy traditional approach which is from using chalk and talk with teachers become the facilitators who search for the information. Besides, teachers are not solely the knowledge source and main dispersion of information.

According to Yusup (2002) the history of technology in Malaysian education system started around 1970. The use of technology in education has been discussed widely in workshops, forums, conferences, magazines and newspapers by that time. Technology in education in Malaysia can be divided into 3 ages, which are pre age and independent post (evolution of visual source and hear see), the second age is around 1972-1979 (influence of communication media, radio, and educational television), and the third age is around 1980-1990 (evolution of teaching based on computer resources) (Yusup, 2002). In teaching, teacher can use ICT as a medium to
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Mayer, R.E., Fennell, S., Farmer, L., and Campbell, J. (2004). A Personalization effect in Multimedia learning: Student learns better when words are in conventional style rather than formal style: Journal of Educational Psychology.


