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Research paper

Integration Social Media Technology and Ethical Collaborative Learning

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Abstract

The research aimed to design and evaluate an innovative Web 2.0-based collaborative learning with the Islamic ethical system to support Islamicisation and the practice of Islam as a way of life that is the main goal of Islamic education. This is in response to the lesser amount of focus in Islamic education on the real example of integrating ICT into the collaborative learning process that could support social constructivist learning goals and skills for use of Islamic knowledge in daily life. The most important argument is that the students should be given an appropriate and practical platform where they can practice collaboratively and share their experiences that design science research methodology and Facebook features in this study could support these needs and arguments. Expert review, user testing were conducted and quality, effectiveness and usability of developed Web 2.0-based collaborative learning confirmed.

Keywords: D*esign science research methodology, Islamicisation, Web 2.0-based Collaborative Learning*

1. Introduction

Islamic education emphasises on practising Islam as a way of life [1]. Nowadays people live in a complex world (global village) and need to manage their life collaboratively. Information technology (IT)under the Information System (IS) umbrella has equipped us with tools, knowledge, and infrastructures to collaborate. As a consequence, we must learn how to utilise IT for collaborative learning (CL) and apply different problem-solving frameworks into complex and wicked problems of communication in real life.

International Islamic University Malaysia (IIUM) highlighted CL with emphasis on the Islamic ethical system as its goal[2][3][4]. In addition, Centre for Islamisation (CENTRIS) emphasizes on practical aspects of Islamisation. In the context of this emphasis on the practice of CL and IIUM's potential for integrating ICT into CL process, this study aimed to explore Web 2.0-based CL in this university. The use of Facebook to practice CL with empathy and research on verses of Quran comparing with human science in this study could be the real example of Integration and Islamisation goals of IIUM[4].The integration of ICT into CL supports social constructivist learning goals and skills for use of Islamic knowledge in daily life.

Collaborative learning in Islamic world view

Ali'Imran 3:200 emphasises that people construct an understanding of endurance together (صَابِرُوا) and alone (اصْبِرُوا). In effect, there are communities of endurance, and self-control (تَّقُوا). Allah says:

"يا أَيُّهَا الَّذِينَ آمَنُوا اصْبِرُوا وَصَابِرُوا وَرَابِطُوا وَاتَّقُوا اللَّهَ لَعَلَّكُمْ تُفْلِحُون"

"So you, who believe, have endurance in suffering, be patient and persevere, strengthen each other and be firm, and be pious and fear God that you may find success." (3: 200)

Islam encourages collaboration and communication with an emphasis on endurance and self-control. Collaborating together, in the Islamic point of view, does not mean that the individual is no longer important. However, it means that effective and efficient communication goes beyond individual accomplishments. The importance of working together in a collaborative manner has been stressed by the Prophet Muhammad s.a.w. (Peace be upon him). This is also mentioned in several Hadith (which is the Prophet' Muhamad's teachings and sayings). An example of this is in a hadith narrated by Al-Bukhari, which states: Faithful believers are to each other as the bricks of a wall[5].

2.Theoretical Framework

The instruction's model in social constructivist theory is adopted but modified from [6] that includes three parts: learning methods, conditions and goals. Using Facebook as Web 2.0 tools for CL could present conditions of CL in Constructivist theory, complex and relevant learning environments, [7]. These conditions of instruction provide good opportunities to promote critical thinking, awareness and use of knowledge [6]. Since the main knowledge base in this study is the verses of the Quran with a special focus on research and Islamic knowledge, this study modified Driscol model and considered religious awareness and practice of Islam as a way of life as goals of CL in this study's framework (Fig.1).

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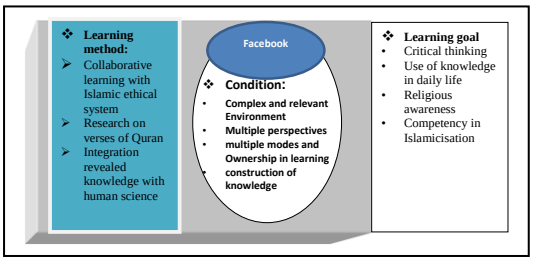

Fig. 1: Research Framework

3. Design science research methodology

The DSRM is adapted from [8] study that appeared in Management Information Systems Quarterly (MISQ) in March 2004. This experience-based methodology is used for iterative design-evaluation of Facebook-based CL and user testing. Designing the information technology (IT) artifacts requires a scientific foundation that the rigour cycle bridges this scientific foundation (constructivist theory and verses of the Quran) with the design cycle. The design cycle is connected to the environment for the practice of knowledge as a way of life that is the main goal of this study and getting feedback for refining the design process. This help learners actively engage with real-world problems and practice the use of knowledge in daily life that supports the development of CL competencies better than theory-based methodology.

3.1. Six steps of DSRM

3.1.1 Identifying the problem and justifying the value of a solution

[9] have included in their study the six steps of DSRM in shown in (Figure 2) that begin with identifying the problem and justifying the value of a solution. In this study requirement analysis, investigating the Islamicisation in IIUM and practice of Islam in daily life, begins with 3 interviews, participant observation and literature reviews.Findings show IIUM's study circle programme and CENTRIS promote the CL and practice Islam as a way of life [4]. However, the implementation of this method of instruction needs to be improved to achieve learning goals [3]. IIUM has the potential to integrate ICT into collaborative learning that is known as the best solution to improve this method of instruction. However, there is a need to intervene successful use of ICT for collaborative learning. Facebook as a web 2.0 artifact that has sophisticated ability for collaborative learning [10][11] and the majority of students and centres in this university have their own account, but they do not use it for collaborative learning [12]. [13]argues that DSRM and Facebook-based collaborative learning allow people to collaborate. She comments that students must learn how to manage their behaviour and adhere to cyber ethics that could improve their self-control, empathy, endurance and conscientiousness. [13][14]indicated that there exists a relationship between cyber ethics and religious awareness.Learners can practice ethical CL in virtual world and use their knowledge and experiences in real life.

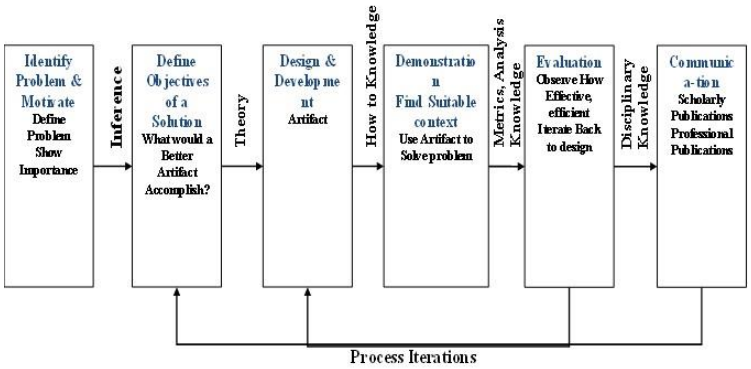

Fig 1: DSR Process applied to the design and development of artifact adapted from [9]

3.1.2 Design and Development procedure

The research considering, all findings from requirement analysis based on this study framework designed and developed an innovative Web 2.0-based CL with the Islamic ethical system to support Islamicisation or the practice of Islam as a way of life that is the main goal of Islamic education. This is in response to an urgent need for innovating CL methods in IIUM and lesser amount of focus in Islamic education on the integration of ICT into CL process that could support social constructivist learning goals and skills for use of knowledge in daily life. This study determined constructs for the goals, considered features of Facebook and designed practical activities that could provide a valid, practical and effective Web 2.0-based artifact and virtual space in which learners could research and practice Islamic knowledge collaboratively. This platform allows to construct knowledge and develop skills for use of knowledge. Also, the Social negotiation and discussion features of Facebook allow members to analyse information, explore ideas, and share feelings among themselves and their instructors. Such CL and negotiation leads to deep understanding and critical thinking of learners. In addition, using developed artifact help to learn how to practice CL, empathy, self-control and endurance to promote critical thinking, religious awareness and use of knowledge that are the main goals of Islamic education. (Table 1). Action plan based on social constructivist theory, Verses of Quran and Facebook features

Table 1: Action plan for the initial development of goals

Goals	Constructs	Activities for the initial development of goals
Critical thinking	➢ Reasoning ➢ Understanding ➢ Mindful reflect	➢ Inquiry-based learning ➢ Problem-solving ➢ Learning through examples ➢ Learning by reasoning
CL, Research and Use of knowledge	➢ Learning together ➢ Empathy ➢ Social negotiation	➢ Learning by doing ➢ Research and teamwork ➢ Social negotiation, ➢ Share information with reliable references
Religious Awareness	➢ Empathy ➢ Self-control ➢ Endurance	➢ CL and Social negotiation with empathy ➢ practising self-control and endurance ➢ Careful not to hurt peo-

To create a Facebook page

Facebook's page as a common space where people, instructors and students could get information resources and discuss various issues related to inside and outside of the class was created by the researcher. The emphasis of this page is on CL, research on verses of the Quran and Study Circle programme. The cover picture of

this study created page shows the aurora in the Lofoten Islands of Norway and an excerpt of Surah Noor, Ayah 35. This is a symbol of the Islamic world view that believes the "Light of God" as the source of knowledge. The philosophy of illumination is a doctrine according to which the process of human thought needs to be aided by divine grace. The verse 35 of Surah Noor has a very interesting meaning related to this doctrine. This Illuminations school of Islamic philosophy believes that the mind needs to be enlightened by light from outside itself so that it can participate in truth because it is not itself the nature of truth. The Persian philosopher Shahab al-Din Suhrawardi (1155–1191), founded the school of Illumination[15-17]. The profile picture shows a green leaf that is the symbol of nature and another source of knowledge in the Islamic world view. The cover photo and profile picture highlight two important sources of knowledge and ways of connecting to God: the Quran and nature (see figure 3).



Fig. 3: This study's Facebook page

3.1.3 Demonstration and Evaluation

Expert review, Revision of the theoretical model, Constructs, Action Plan and Design Guidelines

Experts in Quran reviewed the developed Web 2.0-based CL with Islamic ethical system, theoretical models and action plan. They emphasised the need for empathy, self-control and endurance in CL and social negotiation in Facebook-based collaborative learning process based on their own experiences. In addition, an Instructional designer from the Universiti Teknologi MARA (UiTM), evaluated "Theoretical model" , design strategy and confirmed their validity and effectiveness.

Instantiation validity

Loop 1

After evaluation of the theoretical model by experts and many recommendations the researcher participated in two courses "Islamic world view and IT " and " Research Methodology" in KICT. The Facebook personal account was created and students were added to the developing artifact by the researcher as administrator of FB. This study gathered firsthand data about the implementation of CL with Observational techniques. This provides the researcher with an opportunity to evaluate the usability of the artifact and to collect data on a wide range of behaviours, to capture a great variety of interactions, and to openly explore the evaluation topic.

Findings, participant Observation

The findings are categorised as follows:

1. Limitation of class time don't let for more practice and CL, this study developing artifact could provide good opportunity to integrate teaching strategy and continue CL on FB
2. There is an urgent need to see real examples and model of using Facebook for CL

Loop 2

This study planned to create the a Facebook goup, integrate the theoretical model and instruction strategy into artifact to achieve CL goals and evaluate with user testing . The learning process was mediated by the researcher by posting information related to class materials. The researcher became a participant and co-learner in discussions, asked questions and corrected misconceptions. Six Postgraduate students from 42 participants were chosen by the researcher as the Learning Assistants. These students assisted group research and members on any technical and nontechnical issues. This study found use of artifact with training well changed students perception.They highly rated the utility, Quality and effectiveness of artifact.

3.1.4 Communication

In the communication step of DSRM, the contributions of the study are shared with the all informal learners on the Facebook public page. Inquiry-based learning, problem-solving method and negotiation with reasoning and sharing reliable references promote critical thinking of learners. In addition, CL practice with the Islamic ethical system and emphasis on empathy, self-control and God-consciousness increased religious awareness. The findings from participant observation show CL based on developing, the ethical system could promote empathy while competitive structures reduce empathy to others needs, the accuracy of communication, and trust. The team research on verses of the Quran and integration with human science promoted Islamicisation competencies.

4.Conclusions

The research was iterative cycles of design-evaluation that encompassed a preliminary requirement analysis to develop an innovative Web 2.0-based artifact to achieve CL goals. The artifact includes the instructional model based on social constructivist theory and action plan for defining theory into practice. This action plan supports the development of critical thinking, religious awareness, research on verses of Quran, practice Islam as a way of life and Islamicisation competencies.

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