Design Approach of Malaysian Sexual Educational Courseware (MSE) for Secondary Schools

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Abstract: - Sex education used to be a very sensitive or taboo subject matter to be taught in Malaysian schools however it has been introduced indirectly to Malaysian Secondary School and Primary School in 1989 and 1994 consecutively. This effort though appears not good enough as crime index statistics of rape cases produced in Malaysian police report showed that steady and double increment cases occur each year in 2000-2006. Unfortunately, 10% of the crimes involved juveniles of 18 years old and below. Realizing the social problems amongst the juveniles especially school children increases, a guideline of national sexuality education was outlined and soon after was approved by the Malaysian government. As a result, the sexual education was found as a very important subject to be taught appropriately in school. Conversely, it was not taught as an independent subject but integrated across a curriculum of family health education, science, additional science, biology, religion and moral education. An early study related to the perception of the teachers and students toward the sexual education curriculum taught in schools was carried out. The study showed that there are big gaps between the perception of the students and teachers towards several issues related to the current sexual education taught in Malaysia School. Based on the study, the conceptual model of animated approach of MSE was developed and the research framework was designed based on several learning theories and user interface design concept to address the weaknesses of commonly used pedagogies in handling the sensitive and delicate issues of the subject. In conclusion, the effort of developing the courseware is hopefully will be a solution to the Malaysian teachers and students problems in teaching and learning of the sensitive subject matter.

Key-Words: - Sexual education, school children, students, social problems, rape cases, crimes, educational courseware, pedagogies, usage-centered design, learning theories.

1 Introduction

Sex education or "sexuality education" is about education in all aspects of sexuality, including information about reproduction plus information about all aspects of one's sexuality including body image, sexual orientation, sexual pleasure, values, decision making, communication, dating, relationships, sexually transmitted infections (STIs) and how to avoid them, and birth control methods (wikipedia). Sex education may be taught informally such as conversation with a parent, friend, religious leader and through the media or in some countries it may be taught formally in school as a full course as part of a curriculum for a specific subject but in others it may also be taught within a health science, home economics, science, or physical education class.

Most of the youngsters today do not understand the change they are experiencing. Thus, this prompted them to try a sexual activity without knowing the effect and consequences they have to face later. Sex education is important, as it will educate the youngsters to respect their bodies and also the opposite sex. It would not promote promiscuity but to encourage abstinence. Furthermore, it will prevent unwanted incidents such as early sexual encounters, unwanted pregnancies, STD and HIV/AIDS, Besides the teachers, parents also play an important role in educating their children on this issue. From the teaching perspective, sex education is a new challenge, as teachers need to prepare themselves with knowledge and ways to handle the curiosity of youngsters. It is especially challenging on the kindergarten and pre-school teachers, as they have to entertain questions from the children. The children

themselves may not know the real issue. This is where the teachers' role comes in handy to provide information based on their understanding.

At the same time, another aspect that is as important to be introduced and taught in sexual education class is the laws and social impact of sexual act. Generally, the Malaysian youngsters do not understand the concept of statutory rape which means that the person or persons who commit this sexual act or even allow it to be committed are guilty of rape. Many youngsters are falling into this crime type. The main reason of this crime type is lack of education. Lack of education amongst the youngsters may give an impact on the increment of rape cases in the Malaysian Crime Incident Rate vs year (2000-2006) that was shown in figure 1 below .

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TIFF (Uncompressed) decompressor
are needed to see this picture.

Figure 1 Crime Incident Rate for 100,000 populations

This crime index was taken from Malaysian police report [12]. Four variables represented crime cases such as homicide/murder, attempted murder, robbery group and firearms robbery were seen decreasing along those years, on the other hand increments were seen each year in the rape cases.

2 Sexual Education in Malaysia

Malaysia is currently moving more into an advanced and more developed territory. Corresponding to development and progresses, several challenges have to be looked into such as gap in family relations and isolation as well as social and environmental problems. Unfortunately, children and young people are amongst the most vulnerable and exposed to these challenges and threats. The issues and its impact on children and young people are of particular concern today to the Malaysian government such as increasing prevalence of HIV/AIDS with the doubling every three years of reported HIV cases, increased reporting of violence against children and young people including sexual abuse, increase in juvenile offences and also increase in substance abuse. In this case, parents need to play their roles to equip their children with sexuality education. However, generally parents as sex educators of the children are either uninformed [1], or reluctant to discuss sexuality with the children [2]. Embarrassment of talking about sexual related matters may be a reason to explain such disregard [5], Blake [2] noted that parents often feel ill-equipped to do so, and therefore look to schools to either partially or completely do the job.

Consequently, the decision to implement sex education in schools (including pre-schools) is for the betterment of Malaysia. Sex education will be absorbed into the current school syllabus and will not be taught as a specific subject. The subject would be part of family health education, science, additional science, biology, religion and moral education. The government has also formulated Healthy Reproductive and Social Education Guideline to assist teachers in handling the delicate subject. School-based health reproductive education is grounded in a presupposition that young people will not engage in sexual activity until married. In 1990 the average age of marriage in Malaysia was above 23 and has been rising since the 1970s. The sexual education undoubtly would provide a platform for students to ask questions about sexuality matters so that they would be more sensitive towards family values and responsibilities. The targeted groups for the education fell under five age categories, namely pre-school children, pupils, teenagers, youths and adults.
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3 Sexual Educational Multimedia Courseware

MSC Malaysia (formerly known as the Multimedia Super Corridor) is Malaysia's most exciting initiative for the global information and communication technology (ICT) industry, which was conceptualized in 1st August 1996 [1]. The initiative has created a multimedia utopia for innovative producers and users of the multimedia technology in Malaysia. This resulted to the development of multimedia courseware that were applied to most of learning subjects in primary and

secondary schools. In addition, educational as one of the most effective teaching and learning tools to be used either at school or at home.

Before MSE courseware is designed, an initial study was carried out to the target users. The users of the courseware are the students, teachers and the stakeholders (parents, ministry of education and the government). However, for this initial study purposes sampling were only taken from students and teachers. Randomly, forty-three students were selected from various races, religions, cultures and backgrounds and at the same time 28 teachers volunteered as respondents for the study. The respondents were required to answer four main questions related to their perceptions of the current curriculum of sexual education taught in school. Surprisingly, the perception of both respondents; the teachers and students were very much diverse from each other for the first question, 53.6% of the teachers thought that the knowledge prepared by the current curriculum is more than sufficient for students, on the other hand 58.2% of students said that the sexual knowledge provided by the current sexual education curriculum is inadequate especially for the students above 15 years old. 49.3% of the teachers and 40.1% of the students said that the current sexual education curriculum would give an effective knowledge and enable the students to stay away from unwanted incidents such as early sexual activities, unwanted pregnancies, STD, HIV/AIDS or have close relationship individuals with sexual diseases.

The study also showed that 50% of the teachers have an inclination to state that most of the teenagers acquired the sexual knowledge through pornography resources; however, only 14% of the students have the same opinion. Further more, 33% of the students said that they acquired most of the knowledge about sexual education from the teachers, friends and mass media because most of them (74% of the students) said that their parents usually reluctant to discuss the related subject and wanted their children to acquire them from schools. Consequently, the study found that most of the students have shown interest for Self-Directed Learning of sexual education through MSE courseware. Self-Directed Learning is a learning system that requires the individual takes the initiative and responsibility for what occurs. Individuals select, manage, and assess their own learning activities through the content of MSE which can be pursued at any time, in any place and any age. In schools, teachers can work toward SDL a stage at a time. Teaching emphasizes SDL skills, processes,

multimedia courseware is widely accepted and systems rather than content coverage and tests. In conclusion of the early study on respondents' perceptions, it showed that Malaysian sexual education requires assistance from teaching and learning aids specifically interactive multimedia courseware. Therefore, MSE could play a main role in assisting the students and teachers in managing the weaknesses of the current style of pedagogies.

4   Instructional System Design

Instructional system design (ISD) was drawn from descriptive theory and prescriptive theory [2]. Descriptive theory describes phenomena as they were hypothesized to exist. Many learning theories described how learning occurs. Learning activity in MSE courseware was based on several learning theories namely cognitivism, Hermann Brain Dominance Theory (HBDT) and heutagogy. Prescriptive theory gave directions or guidelines for actions to take that would lead to a certain result. Instructional theories were generally prescriptive in nature. They suggested that if instruction includes certain features, then certain degrees of learning outcomes were likely to result. Whilst learning theory strengthen the MSE learning modules, an Instructional design model; ADDIE will work with user interface design concept; usage-centered design to establish a research theoretical framework as shown in Figure 1.

4.1 Learning Theories

MSE courseware is a SDL (Self-Determined Learning) animated multimedia courseware, which was designed, based a Guideline of National Sexuality Education (GPPKS) and secondary school syllabus. SDL is an Heutagogy. Heutagogy was the study of Self-Determined Learning that draws together some of the idea presented approaches to learning capability, action learning processes such as reflection, environment scanning, valuing experience and interaction with others [6]. Heutagogy was also an attempt to challenge some ideas about teaching and learning that still prevail in teacher-centred learning [4].

Cognitive learning theory in sexual education was viewed as symbolic, mental constructions in the minds of individual students, and learning becomes the process of comitting these symbolic representations to memory where they might be processed. This active mental process would increase mental capability for better learning

objective [11]. In the mean time, Knowledge of Hermann Brain Dominance Theory (HBDT) could assist to develop and deliver a more applicable and better remembered application. Each quadrant had a preferred style of learning and preferences for particular types of learning activities. When the activity matched a learner's preference, there was an increased probability that learning would occur [6]. Therefore, the developed MSE would serve as a teaching and learning tool enabling educators to design and deliver content to students in ways that not only reached each learner by accommodating theirs learning preferences, but also addressed learning avoidance [4]. Icon metaphor technique was a familiar process in the interactive educational multimedia that students can learn, use, remember, and enjoy the system more quickly, effectively and comprehensively.
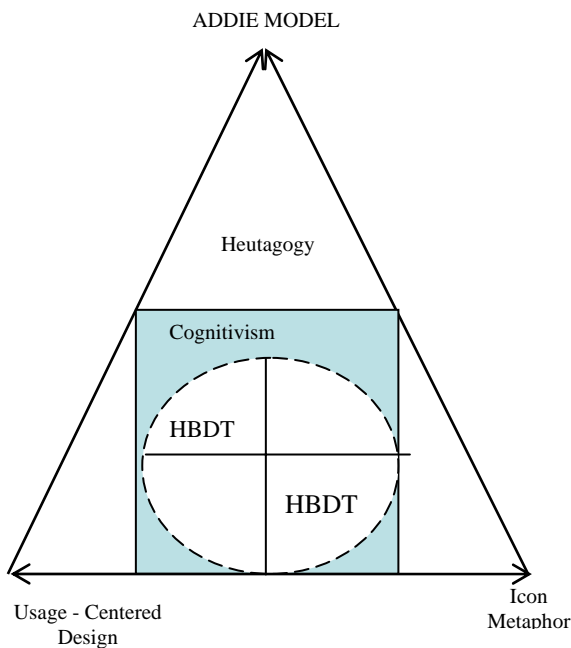
ADDIE MODEL

Figure 1 Research Theoretical Framework

5   Methodology

The target users in this research are secondary schools students who begin to familiarize themselves and accept sexual education as a formal module in science subject. The main aim of this research is to develop an animated sexual education courseware and to identify the effectiveness of the developed MSE. Besides five main elements in development stages, the interactivity of the user and computer through usage-centered design is also studied and contemplated.   Usage-centered design is a

systematic, model driven approach in human interface engineering to build a more usable and lightweight courseware [3]. Essential models such as participation model, activity model, content model, design model and mental model are used together with ADDIE to create a comprehensive research cycle as shown Figure 2. The essential models are disposed to resolve "what" before the items moved into the direction "how". Such considerations will allow the courseware designers understand their user's requirement profoundly that resulted a more user friendly design, high usage and effective learning courseware.
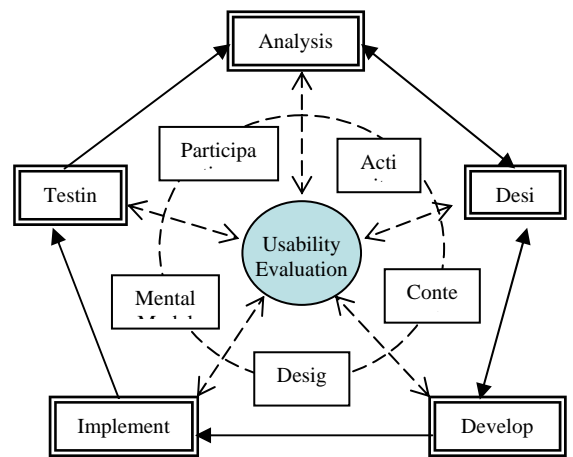

Figure 2 Research cycle development   of MSE

6   Conclusion

Malaysian education system including the curriculum of sexual education is slowly evolving corresponding to global change. Realizing the importance of the sexual education knowledge to the students, a government had constructed and outlined a national sexual education guideline that resulted the subject is currently taught in all schools, although the relevant subject matter was considered 'taboo' to be discussed openly before. Conversely, it was not taught as an independent subject but integrated across a curriculum of family health education, science, additional science, biology, religion and moral education. In teaching perspective, sex education is seen as a new challenge, as teachers need to prepare themselves with knowledge and ways to handle the curiosity of youngsters. An initial study was carried out recently and it showed that most of the sexual knowledge acquired by the students was from schools rather

than from their parents. Therefore, the design and development of MSE has enormous potential for enhancing the learning of the students in sexuality education. It offers confidential non-threatening, non-judgemental and private environment advantageous because it can cater for students' varying learning styles, privacy, and sexual ignorance, to maximize opportunities for the students to explore and learn {14}. Certainly, there are other pedagogies and interactivities that can be used in teaching about sexuality. However, the variety chosen here has several objectives; to enhance student teachers' own learning about knowledge of sexual education within relevant contexts; to encourage a more informed pedagogical approach to sexual education; and to enhance student teachers' understanding of the significance of addressing sexuality in the classroom (Goldman, 2004). In conclusion, the Malaysian Sexual Education courseware (MSE) design is comprehensively equipped with learning theories and user interface interactivity to ensure it is usable, highly usage and to make teaching and learning sexual education acceptable, easy and more effective.

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