

# CREATING THE FUTURE OF NURSING EDUCATION IN MALAYSIA: ENVISIONING THE EVOLUTION OF E-NURSING EDUCATION IN MALAYSIA

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## ABSTRACT

Technology in education has advanced significantly and in tandem with these advances and the nations ICT agenda, nursing education in Malaysia must play its role in application of new technological and pedagogical advances towards achieving a knowledgeable and skillful workforce. A local study was conducted on a group of nursing students (n=58) using the traditional approach and the blended approach in teaching Myocardial Infarction. In the blended approach, an instructional design was used together with face to face interaction. Results showed significant differences in achievement (mean 15.21 and std dev. 2.06) in the group taught with the blended approach. In general these students (Group1) demonstrated positive acceptance of its use as they found this approach different, exciting and interesting. Investigation into educator's perceptions of the use of instructional technology and a blended approach in nurse education indicated that educators need proper preparation and support in this endeavor. Findings have implications for improving knowledge and use of information technology, for review of the nursing curriculum and for addressing identified institutional and administrative barriers.

## 1. INTRODUCTION

Technology in education has advanced significantly from overhead projectors as primary teaching aids in the traditional classrooms to use of electronic mail, search engines, chat rooms, internet and software programs. Nursing Colleges in Malaysia are being challenged by the Ministry of Health's vision to provide healthcare that is equitable, affordable, and technologically appropriate with emphasis on quality, innovation, and health promotion (Ministry of Health Malaysia, 2000) towards an enhanced quality of life. In order to support the resulting complex nurse education programs and increased numbers of nursing students, there has been heightened interest in maximizing the efficiency and effectiveness of teaching and learning. E-learning is seen by many as an answer to some of these issues. Simply defined, E-learning is the facilitation of learning through the use of electronic technology. According to (Young 2000), E-learning enables educators and students to process information that is accurate, unduplicated, error-free and accessible from remote areas by multiple persons at the same time. Present day students are just as bright and capable as those from prior generations, but they are living in a social world which is surrounded by

technologies. What they need is something they can interact with in a way with which they are familiar. Interactive media offers learning that appeals to these learners with the sounds, images, and words being available at the same time. The authors felt that in the e-learning environment, what is presently taught in classrooms can be made accessible to the students anytime, anywhere and students can learn at their own pace. Practical skills and knowledge can be taught through computer assisted learning material, virtual learning and teleconferencing

## 2. LITERATURE REVIEW

Many studies have been done to evaluate and compare traditional and e-learning courses. Ryan, Carlton, and Ali (1999) conducted a study to evaluate traditional and web-based courses. In more in depth, students felt they had more interaction with the course faculty and other students, and that more communication skills were required than the web-based course. In the web-based course the most significant finding in the Ryan et al. study revealed that students demonstrated a higher level of analysis and were able to critically think through better the application of theory to case studies. The evaluation results of a web-based and traditional-based course by Willis, Stommel and Simmions (2001) showed that on average, students

rated both courses the same in terms of learning, quality of instruction, and their enjoyment. According to Young (2000) computer skills will soon be prerequisite for information-related disciplines and those who possess computer skills will have an edge over those without such skills. Related literature revealed that nurse educators must learn how to use technology. However, the acceptance of new teaching styles are not quickly embraced or adopted in nursing (Rankin & Hoas 2002 Oermann 1997 Halloran1995). Skills are needed in accessing, managing, and examining information (Young, 2000). Nursing education must be ready as information technology evolves. Leaders in nursing education must work to ensure that faculty and students will be aware, understand, and apply technology appropriately. Learning technologies can be used by nursing students all over the globe to communicate with and support each other. Amongst those that can be used in nurse education are: *Websites and intranets, Computer assisted programs, Interactive Video Instruction (IAV), Virtual lecture halls and Virtual reality simulators or Human patient simulators (HPS) and Games. Other than that online examinations and assessments can be done and e- portfolios have been used.* While there are many technologies and many teaching approaches to use, learning requirements and preferences of each learner tend to be different. Academic organizations must use a blend of learning approaches to get the right content in the right format to the right people at the right time. The term “blended learning” is appearing with increasing frequency in academic literature. It has recently been identified as “*the single-greatest unrecognized trend in higher education today*” (Young, 2002). Blended learning uses both online activities with traditional classroom teaching and thus offers the efficiency and flexibility of online delivery without the complete loss of face- to- face interaction. There are many reasons why an instructor might choose to design a blended learning environment over a non-blended environment. Osguthorpe and Graham (2003) identified six reasons that these individuals might be choose to design or utilize a blended learning environment:

- (1) pedagogical richness,
- (2) access to knowledge,
- (3) social interaction,
- (4) personal agency,
- (5) cost effectiveness, and
- (6) ease of revision.

### 3. NURSE EDUCATION IN MALAYSIA

The authors, through their many years of experience, felt that despite widespread availability of instructional technology, traditional classroom lectures are still the mainstay of nursing college teaching. Even if the computer is used, more often than not a PowerPoint presentation is used to replace the whiteboard and overhead transparencies in delivery of content. The authors strongly felt that e-learning could make a difference for nursing education in Malaysia and produce better student outcomes. However, in terms of e-readiness, we need more environmental, technical and financial (organization and individual) readiness, in order to enable learner readiness. The authors thus recommended blending learning approaches be used in nurse education as nursing students and nursing colleges in Malaysia are not ready for total e- learning courses yet.

### 4. THE STUDY

A quasi-experimental design study was used to compare use of the traditional lecture method and the blended approach to teach Myocardial Infarction to nursing students pursuing the Diploma in Nursing course, to investigate if there was a significant difference in their achievement. Students and tutors perceptions were also assessed through interviews. A convenience sample of 58 nursing students in their second year of training in a local nursing college was selected for this study. The AD-DIE model was used to design instructional technology material on *Myocardial Infarction* and sequenced according to Gagne’s Nine events of Instruction (1979). Pre Test was conducted on the 2 groups whereby the students sat for the same MCQ (multiple choice questions) test. Results are shown in Table 1.

Table 1: Pre test results

	Group 1	Group 2
n	29	29
mean	11.03	11.38
Std dev	2.06	1.72
	$f=1.42$	$df(28)$ $p<0.173$

Two days after the pre test, one group that is Group 2 (n=29) received the traditional lecture on that topic and for Group 1 (n=29) the blended approach was used to teach the same topic. The tutor used instructional technology and also the face to face approach. Student - student and teacher-student interactions were carried to discuss the topic. After a week, post tests were conducted for the two groups. The group exposed to the blended approach achieved higher post tests scores (Table 2).

Table 2: Pre test results

	Group 1	Group 2
n	29	29
mean	15.21	14.21
Std dev	2.04	1.63
	$f=1.57$	$df(28)$ $p<0.121$

The authors then carried out focus group interviews on the students that were exposed to the blended approach, to assess their perceptions on the use of instructional technology and blended learning in their nursing course. Students' perception of e-learning is an inherently important criterion by which we can evaluate program effectiveness. (Biner, P.M, Dean R.S & Mellinger A.E 1994). On the whole the nursing students were more excited and interested in the instructional technology used and paid full attention in class. *"We were not sleepy .....and we found it to be very interesting.... something different ....we can understand better and have a clearer picture now...for example we now know what an angioplasty looks like"*. Students however did not find it convenient to chat with the tutor on line as access and time were their problem. Only 15 % managed to look up the web references due to similar problems. Adding to that the references were all in English and the English was "too high" for them. 76% of the students agreed to this. They would have preferred if the articles were extracted by the tutors and given to them as handouts as it 'saves time'. They would have preferred articles in Bahasa Malaysia also. Although students agreed that this approach was

more flexible and interesting, they actually seem to prefer face-to-face education (95%) as it made them more secure. This preference became more evident when learners realized that undertaking e-learning or blended learning courses would be more demanding than traditional methods because learners have to demonstrate their engagement in the educative process by taking part in online discussions with tutors and peers and looking for material themselves. Individual interviews with the tutors were also conducted to assess their perceptions on the use of instructional technology and the implementation of blended learning in nursing education. These interviews revealed varying perceptions and many perceived barriers. The tutors did agree that *e-learning was in trend now and would be a good way to teach nursing students as the knowledge was up to date and there was 'so much more information available'* However they did perceive many barriers to the implementation of e-learning here. Elsewhere several studies have looked at this issue, with similar results (Ross 2005), showing barriers related to attitude, knowledge, access, cost, and security concerns all being impediments to the use of technology for learning. In this study, lack of time to plan and prepare technology infused lessons was identified as a major obstacle. The tutors stated that technology integration was new to them and their workloads and schedules precluded taking time to design lessons that included technology. Tutors did not have much knowledge and skills in preparing instructional materials (75%) ...we mainly use the power point for text and look for images ...we are not very familiar with on line discussions and Learner Management Systems ... (more than 70%) The problem with access was also an obstacle to our local tutors. Even though 100% of the tutors had a PC or a laptop, internet access was a problem to some as they had to share the facilities with others and had frequent trouble with access.. Technical support is very critical for success as indicated in Woo and Kimmick's (2000) study. Our nursing tutors are facing similar problems "We waste a lot of time when technical complications occur ... there's no expert in the college. We need to get help from outside...its very frustrating when the LCD or internet fails to function or breaks down" Interestingly, some misconceptions were revealed during the interview whereby some

tutors voiced out their concerns about employers who might prefer nursing students who had completed traditional education over those whose nursing programs that had been undertaken on-line. What they failed to realize that there is no two way about clinical practice ('hands on') and it will still be the mainstay of nurse education practical training. Others voiced out their belief that some e-learning programs eroded contact and interaction with students and could lead to 'passive learning'. This however is contradictory to the many beliefs in the potentials of e-learning and that fact that e-learning is based on constructivism and results in active learners.

## 5. IMPLICATIONS

Healthcare learners and teachers will need preparation and support if they are to benefit from e-learning. Successful adoption of e-learning requires a shift in learning and teaching culture. Learners and educators will need to develop new attitudes and skills to ensure they have positive learning and teaching experiences. E-learning initiatives that need to be looked into include promoting e-learning through more training, creating more public policies and infrastructure and perhaps having a one stop centre for e-learning. The issue of limited time, problems with access and lack of technical support should be addressed in all educational institutions. All non-computer based materials associated with academy instruction (books, software and digital still and video cameras) should be provided. Computers/laptops and internet facilities should be made accessible so that tutors and students would have the equipment and resources needed to apply and implement the instructional ideas and methods. The problem of language needs more attention even though nursing students are attending English Language classes. Limitations of study were the small sample size and the instructional design which was for one topic only and not the whole course. More research is needed to determine the learning effectiveness of blended approach to learning versus the traditional classroom. Because technology will continue to advance, so must educational delivery systems. With blended learning, the true and tried traditional teaching methods are combined with new technology to create a teaching-learning structure that can propel learning to new heights.

So why take one item from the menu when you can have the buffet?

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