

User-Centered Evaluation of a Digital BLS Learning Platform in a Hybrid Education Model

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INTRODUCTION:

As education evolves in the digital era, resuscitation training must also adapt to remain effective, accessible, and engaging. Universiti Teknologi MARA (UiTM) developed and implemented the Online Basic Life Support (BLS) Certification Module and Platform[©] within the past three years, using a hybrid model of self-paced online learning and face-to-face skills training. The platform is now used for the BLS certification of hospital staff, students, and members of the public seeking certification. This study aimed to evaluate the platform's usability and identify factors influencing user experience.

METHODOLOGY:

A two-phase cross-sectional study was conducted. Phase 1 involved the development and validation of a composite questionnaire by adapting items from the FIXED Questionnaire, Perceptions of Learning Management System (LMS) Quality Questionnaire, and the System Usability Scale (SUS). In Phase 2, the validated questionnaire was distributed to 169 participants who completed the course. Descriptive statistics and binary logistic regression were used to assess usability (SUS score ≥ 68 as "good") and associated variables.

RESULTS:

Participants' mean age was 30.2 years with 82.2% female. Overall, 66.3% rated the platform as having good usability, suggesting generally positive user acceptance. Mean scores for system quality, learning quality, and information quality were 4.52, 4.59, and 4.61, on a 5-point Likert scale. Information quality significantly predicted good usability (Adjusted OR 6.845, 95% CI: 1.52-30.434, $p=0.012$).

DISCUSSION:

The platform demonstrated acceptable usability for an early-stage system, with information quality emerging as the strongest predictor of positive user experience. Although system and learning qualities received high ratings, they did not significantly predict usability outcomes, highlighting the critical role of strong and reliable educational content. Maintaining the face-to-face component remains essential not only for skills practice, but also to address gaps that online modules alone cannot fulfill. Future enhancements may incorporate technologies such as artificial intelligence to provide real-time feedback during skills training.

CONCLUSION:

The UiTM Online BLS Certification Module and Platform[©] provides an accessible hybrid solution for resuscitation training, demonstrating acceptable usability in its early stage of implementation. Sustaining strong educational content and exploring innovative learner support technologies will be key to advancing future hybrid resuscitation training models.

Variable	Simple Logistic Regression		Multiple Logistic Regression	
	Crude OR (95% CI)	P-value	Adjusted OR (95% CI)	P-value
System Quality	1.659 (0.912, 3.017)	0.098	1.002 (0.305, 3.291)	0.997
Learning Quality	1.652 (0.910, 2.998)	0.099	0.136 (0.057, 1.477)	0.136
Information Quality	2.224 (1.226, 4.037)	0.009*	6.845 (1.540, 30.434)	0.012*

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