E-learning in Preregistration programs issues for students and educators: A review of the literature

Didy Button
Flinders University
Adelaide
Aim

• January 2001 and December 2012.

• Students and educators involved with E-learning and associated technology in preregistration nursing programmes.
Background

• E-learning most significant change since move from hospital training to the tertiary education.

• Computer and information literacy levels for both students and educators influence the successful implementation of E-learning into curricula.
Definitions

- Computer literacy
- Information literacy
- Nurse informatics (NI)
Inclusion & exclusion criteria

• Issues faced by nursing students and/or nurse educators from undergraduate preregistration nursing programs using E-learning and associated information computer technology (ICT).

• Published in English in peer reviewed journals between January 2001 and December 2012.
346 studies identified using key words & screened for relevance

262 studies discarded as not relevant

84 studies assessed against inclusion criteria

42 studies for not meeting selection criteria

42 studies identified for quality appraisal

14 studies discarded for not meeting appraisal criteria

28 studies thematically reviewed
Analysis of the 28 reviewed studies

- Critical Appraisal Skills Programme (CASP) (41).
- Thematically analysed following Braun and Clarke (6).

Study Design
- 16 quantitative studies
- 9 mixed methods
- 3 qualitative studies.

Study locations
- 11 USA including 1 combined with Canada
- 9 Australia
- 5 United Kingdom
- 1 Greece
- 1 Ireland
- 1 New Zealand
Results:

Three themes, no single theme found across all studies.

**Theme 1** Issues relating to E-learning for students. Found in 71% (n=20)

**Theme 2** Using ICT. Found in 57% (n=17)

**Theme 3** Issues relating to E-Learning for educators. Found in 32% (n=9)
Theme 1: Issues relating to E-Learning for students (n=20 studies)

- Negative aspects of E-Learning
  - Found in all 20 studies
- Computer literacy levels
  - Found in 10 of the 20
- Positive aspects of E-Learning
  - Found in 7 of the 20
- Blended learning
  - Found in 4 of the 20
Theme 1: Issues relating to E-Learning for students

Negative aspects of E-Learning

➤ Anxiety using computers (20, 25, 29).
➤ Lack of ICT skills (4, 5, 21, 31, 34, 36, 42, 46).
➤ Unreliable computer systems (2, 17).
➤ Links with ICT and workforce not made explicit in the curriculum (1, 31, 39, 46).
Theme 1: Issues relating to E-Learning for students

Positive aspects of E-Learning

• Mobile ICT was ubiquitous \( (43, 44). \)
• Flexibility, self paced, timely responses \( (23, 29). \)
• Online allowed students to get to know each other outside of classroom \( (28, 34, 44). \)
• Deeper learning \( (13, 37). \)
Theme 1: Issues relating to E-Learning for students

32.

Blended learning

• Students wanted face to face and online
  
  (23, 28, 24, 37.)

• Students more active online than face to face
  
  (2, 4, 5.)
Theme 1: Issues relating to E-Learning for students

Computer literacy

• Students overestimated their computer competency (21)
• Student basic skills are improving (4,5)
• ICT skills not extended in curricula (36)
• Access to ICT and low skills (20).
Theme 2: Using information communication technology (n=17)

- Nursing Informatics (NI)  
  - Found in 10 of the 17
- Information literacy  
  - Found in 9 of the 17 studies
- Graduate information communication technology (ICT) skills  
  - Found in 5 of the 17
Theme 2: Using information communication technology

Information literacy (IL)

• Students unable to manage information (4, 5, 20, 34.).
• Not improved on graduation (17).
• ICT adequate but not IL (4, 5, 17, 20, 34, 42.).
Theme 2: Using information communication technology

Nursing Informatics (NI)

• Not being adequately covered in current curricula \(^{(36, 38, 40)}\).

• Report into health information management 15 years ago universities need to be integrating information technology into their curricula \((\text{Commonwealth of Australia, 1997}) \(^{(29)}\).
Theme 2: Using information communication technology

Graduate information communication technology (ICT) skills

- Curricula not adequate (1, 22, 34, 36, 46)

- Openly discouraged from using online resources (22, 34, 36).
Theme 3: Issues relating to E-Learning for educators (n=9)

- Educators want to improve their skills (11, 36, 40).
- Increased time involved in E-Learning (3, 11, 13, 16, 18, 38, 43).
Cost of E-Learning production

• 1 hour basic E-learning package 79 h of program production at an estimated cost of $10,737.83 AUD (10).

It is important to note that these costs were based on an instructional designer, not a nurse educator undertaking the work.
Weaknesses & Strengths

• Tools used not validated
• Reliability and validity only 6 of 16 quant studies.
• No power analysis in any of the reviewed studies.
• The wide variety of survey tools. Any direct comparison between studies was not possible.
• Many of the studies were conducted in only one university.
• This review excluded studies prior to 2001 and this was seen as a strength.
Conclusions

• ICT implications for students and educators worldwide.

• Not only teaching and learning technology also nursing graduates.

• Urgent need to develop robust quantitative instruments to measure the impact, effectiveness and perceptions of students and educators who are using E-learning.
Conclusion

• 68% of reviewed studies recommended that education providers incorporate IL & NI into the preregistration curriculum as a matter of urgency.

• This inclusion would meet the current work requirements of registered nurses worldwide.
Conclusion

• Information literacy is an essential lifelong learning skill for RNs alongside the skills involved in clinical judgments about client care.

• Nurse educators want high quality, accessible and tailored ICT professional development.

• Full paper available at

References


References

References

References


Thank you

Questions