E-learning and Nursing Assessment skills and knowledge – An Integrative Review

Authors: Ewan McDonald (RN, PhD) & Jessica L Boulton (3rd year Nursing Student)

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Background to Review

• Curriculum Development (Digital Learning) of 1st year Nursing Assessment & Management subject
  - 2nd semester subject – transition to Clinical School
  - Focussed Health Assessments (Cardiac, Respiratory etc), Investigating Chief Complaint & ISBAR
  - Blended Learning focus at La Trobe for new Digital Age

• Student Research Intensive pilot at La Trobe Alfred Clinical School
  - Opportunity to publish for high achieving students
Review Context

• Graduate Nurse capability
  o 1/3 of graduate nurses ‘poorly or ‘very poorly’ executing clinical skills (Missen, McKenna, Beauchamp & Larkins, 2016)
  o Includes assessment procedures and management of deteriorating patient
  o Comprehensive Assessment – one of the core competencies for RN

• Digital Age
  o Contemporise curricula for the Digital generation eg. Nursing e-documentation
  o Cost-effective – accommodates large cohorts

• Evidence
  o Equivalent and improved learning outcomes in systematic and meta-analyses in health education (students and professional) (Cook et al, 2008; McCutheon, Lohan, Traynor & Martin (2015), Thorne et al (2015)
  o Critique – not multi-site, small sample sizes, measurement validity
  o E-pedagogy in Nursing (Koch, 2014) – the role model and psycho-motor/experiential learning
Method

Research Question: How can digital technology enhance learning in Nursing Assessment skills and knowledge?

Medline, CINAHL, Cochrane Library and ProQuest Nursing and Allied Health Source databases

Manual hand-searching

Inclusion criteria

- Single research study or systematic review
- Study design: measurement or analysis of Nursing subject material which included a significant ‘nursing assessment’ component.
- Critique – not multi-site, small sample sizes, measurement validity
- Study cohort/group were students and/or qualified nurses

20 studies selected and relevant for review

Integrative Review

- identifying clusters of themes by co-authors
- critical commentary on methods/datasets
- themes expressed as short ‘guiding’ statements
Students become self-evaluators

- Move from ‘instructor-centred learner passive’ teaching to ‘student-centred, integrative’ teaching (Carlson-Sabelli, Giddens, Fogg & Fiedler, 2011)
- Self-assessment during e-simulation of patient deterioration – FIRST2ACT (Bogassian et al, 2015) – pre/post study - significant improvement (inc. clinical knowledge using MCQ)
- Avoid risk to patient – experimental study of e-learning pressure ulcer evaluation (Morente, Morales-Acencio & Verdas, 2014)

Measurement of Clinical Reasoning

- Only 3 studies measured ‘clinical reasoning’ as part of learning outcomes
- ‘Responding to Deteriorating Patient (RAPIDS) tool – observed clinical performance (Liaw et al, 2015)
- FIRST2ACT study – Online ‘click’ data

Further studies with measurement of clinical reasoning with educ. innovations
Scaffold and blend e-Learning

- Two RCTs with RN cohorts report significant improvement in clinical knowledge scores for e-simulation experimental groups (Liaw et al, 2016; Sok Ying et al, 2016)

- FIRST2ACT study – knowledge the main predictor of clinical performance – university/vocational college (Bogassian et al, 2015)

- For undergraduate cohorts equivalent learning outcomes or positive outcomes for face-to-face reported. 1 reports significant improvement though only pre and post w-simulation (Heinrich, Pennington & Kuiper, 2012)

- One study on **blended learning** (Kaveevivitchai et al, 2015) – gap in evidence.

Should subject content and digital tools be scaffolded?
Evaluate cognitive load – **when** to e-learn in the curricula
La Trobe BN/BM Curriculum Improvements – Blended Learning

Student Feedback

• Student enjoy the labs – practical compared with other courses (SFS 2016)
• Allows educators to inspire and shine – role models who demonstrate clinical expertise (SFS 2016)

Way Forward

• Improve LMS navigation by use of eBooks
• Contextualise and scaffold learning – ‘cognitive load’ conscious design
• Develop the Len Case Study – construct short videos
• Link to Pebble Pad e-portfolio (reflections): University >>>> Clinical
• Lab & Workshop refresh – upskill teaching staff to do curriculum design
General Inspection Video

Consider the patient situation: Initial impressions of Len

Add your reflections related to the eWorkbook for this topic. What are your early thoughts on the case study or Len's situation? What are your initial impressions of Len? Observe carefully. What cues can you identify which may lead you to focus on a particular body system? Consider Len's mobility and breathing.

Collect cues: Biographical data and chief complaint

Add your reflections related to the eWorkbook for this topic. Document the Biographical Data and the Reason for Seeking Care/Chief
References


References
