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I or an immediate family member, have no financial relationship(s) relevant to the content of this educational activity.
A systematic review of online cancer and palliative care education for nurses and allied health professionals (2000-2011)

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Review Objectives

• Identify the scope and nature of online education in cancer and palliative care
• Identify theory underpinning the online education
• Identify the outcome measures used to evaluate online cancer and palliative care education
• Determine the effectiveness of online education
Definition

...education and learning activities delivered electronically, involving the use of a computer or electronic device, either in a blended or solely online format.
Protocol

Phase 1 Search
Phase 2 Screening
Phase 3 Critical review and data extraction
Phase 4 Reading, ‘riting and ‘rithmetic

Phase 1- Information Services
Advisor undertakes the search (December 2011)

80 sources identified and bibliographic details downloaded to Endnote Web

Phase 2- screening for inclusion to the review (January 2012)

Stage 1- 22 sources excluded

58 full-text sources retrieved for further screening (February-April 2012): 2 sources amalgamated

20 sources met inclusion criteria and included in the review

37 sources excluded
<table>
<thead>
<tr>
<th>Level</th>
<th>Scope and Nature on Included studies: Type of study</th>
<th>Number of included studies (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+</td>
<td>Meta-analysis/systematic review of RCT’s with low risk of bias</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>Randomised controlled trial or meta-analysis/systematic review of RCT’s with high risk of bias</td>
<td>2</td>
</tr>
<tr>
<td>2++</td>
<td>High quality systematic review of case control or cohort studies</td>
<td>1</td>
</tr>
<tr>
<td>2+</td>
<td>Case control or cohort study with low risk of bias/confounders</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Case control or cohort study with high risk of bias/confounders</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Case report or case series</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Expert opinion</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Qualitative study with clearly described design, theoretical underpinning, analysis</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Qualitative study lacking clearly described design, theoretical underpinning, or analysis</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
Results: **Scope and nature of included studies**

- Academic level
- Length of programme
- Disciplines
- Blended and online
Results: Theory

8 papers described underpinning educational theory

- Adult learning theory
- Interpretive pedagogy
- Constructivism
- Self-efficacy
- Concept learning approach
- Generational learning
- Co-operative learning
- Learner centred approach
- Cultural congruence
- LEARN
Outcome measures

**Type**
- Likert
- (National Certification) Exams
- Academic assessment
- Survey
- Routine statistics from online media e.g. mean & median hours
- Number of telephone calls
- Clinical statistics
- Webcast/Focus group
- Questionnaire

**Measurement:**
- Quality & Accessibility
  - Format, Readability, Content, Ease of access & graphics, Accessibility of activities, Quality of materials
- IT use and confidence
- Changes in knowledge skills and confidence e.g. assessment scores
- Cost-effectiveness
- Clinical outcomes e.g. mammography uptake, reduced prostate screening tests, cervical smear quality
## Effectiveness

*(Kirkpatrick 1967, Johnson 2011)*

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Number of studies reaching this level (N=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Assessment of learners’ views</td>
<td>6</td>
</tr>
<tr>
<td>2a</td>
<td>Change in learners’ views or attitudes</td>
<td>1</td>
</tr>
<tr>
<td>2b</td>
<td>Change in learners’ knowledge or skills</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Change in learners’ behaviour</td>
<td>1</td>
</tr>
<tr>
<td>4a</td>
<td>Change in organisational practice</td>
<td>4</td>
</tr>
<tr>
<td>4b</td>
<td>Change in benefit to patients</td>
<td>3</td>
</tr>
</tbody>
</table>
Effectiveness

- *E*learning software e.g. Blackboard, Moodle, Medscape, CD Rom
- Email
- Video-conferencing
- Synchronous and asynchronous approaches
- Online assessment
- Blended and/or online
- Case studies: audio, photo, visual
- Guest experts (real time and via discussion boards)
Results: Change in….

• **Learners views or attitudes** i.e. compassion, fatigue
• **Knowledge or skills** i.e. Nsg care of pts with oesophageal ca; communication cancer and literacy for cancer control researchers; specialist nsg certification; palliative care in a rural setting; nurses confidence in communicating about CAM to physicians
• **Behaviour** i.e. Communication skills for patient assessment
• **Organisational practice** i.e. Conversion of face to face to elearning; delivery of safety in the clinical use of cytotoxics by CD rom; Online delivery of undergrad oncology content; conversion of MSc programme to online delivery
• **Benefits to patients** i.e. Mammography screening; cervical cancer screening; prostate cancer screening
Discussion

Existing:-

The imperative of proof
The imperative of simplicity

Proposed:-

The imperative of understanding
The imperative of representing complexity well

Regehr (2009)
Conclusions

• Rich seam of literature demonstrating creativity and innovation but....
• Cultural reliance on evaluation
• Good evaluation is rare
• Impact on practice rarely measured
• Sustainability even more rarely mentioned
What works?

- What does a good educational evaluation include?
- Should we be focused on measuring change?
- What is the place of educational theory?
- Is impact on patient care the most valuable outcome?
- How do we measure sustainability?
- What is expert opinion in health professions education?
- When should we evaluate and when should we research?
Thank you

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Karen Campbell (project lead)
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