Evaluating Online Learning: Focus on Patient/Medication Safety for Healthcare Professionals

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**Introduction**

- **Background:** Optimizing patient/medication safety education can enhance a culture of patient safety.
- **Objective:** Design a strategy to evaluate online training modules on patient/medication safety with respect to learner engagement, satisfaction, and knowledge acquisition.
- **Deliverables:**
  - Implement an evaluation strategy for Module 1.
  - Collect & analyze learners’ feedback through a 1-week pilot test.

**Methods**

- **Lit Review on E-Learning Evaluation**
- **Design Evaluation Strategy**
- **Pilot Module 1 for 1 Week**
- **Collect & Analyze Learners’ Feedback**

**Conclusion & Future Directions**

- **Module 1 was developed and published using Adobe® Articulate Storyline 3.**
- **Module 1 was pilot tested with an evaluation strategy that included the following key elements:**
  - Learners’ demographics & self-reported prior patient/medication safety knowledge.
  - Quiz questions for knowledge acquisition assessment.
  - Likert scale questions to assess learner engagement, satisfaction, and potential behavioural changes.
  - Open-ended questions to collect module strengths and areas of improvement for Module 1.
- **Our 1-week pilot provided information to guide revisions and modelling of future modules.**
- **Future Directions:**
  - Review Module 1 according to collected feedback and apply learnings to the other modules.
  - Apply iterative cycles of pilot testing and revise modules accordingly.
  - Launch modules on Learning Management System (LMS) for healthcare professionals &/or students.

**Results - Evaluation Form Responses (n=14)**

**Demographics**

- **Area of Practice**
  - Pharmacist 43%
  - Pharmacy Student 43%
  - Other Profession 14%

- **Prior Safety Knowledge**
  - Learnt 43%
  - Not Learnt 43%
  - Other 14%

- **Module Time**
  - 60-65 min 36%
  - 46-60 min 36%
  - 31-45 min 14%
  - 61-90 min 14%

**Knowledge Acquisition Assessment**

<table>
<thead>
<tr>
<th>Module Topic Quiz Question</th>
<th>Correct Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity of Healthcare Environments</td>
<td>93%</td>
</tr>
<tr>
<td>Patient Safety Culture</td>
<td>71%</td>
</tr>
<tr>
<td>System-Based Approach to Errors</td>
<td>71%</td>
</tr>
<tr>
<td>Types of Behaviour</td>
<td>71%</td>
</tr>
<tr>
<td>Human Factors Engineering</td>
<td>79%</td>
</tr>
</tbody>
</table>

**Strengths**

- Content is clear, presented in an organized manner, and is the appropriate complexity.
- “Check-In” application activities are frequent, well-written, and provide adequate feedback.
- Simple design.
- Variety of examples provided.

**Areas of Improvement**

- Lack of visual aids and animations.
- Navigation within clickable “tiles” portions is repetitive, difficult to understand, and overused.
- Module lacks a player control bar with a play/pause/rewind/fast-forward button.
- Narration recording is fuzzy and lacks inflection.

**Learner Engagement & Satisfaction**

- **Satisfaction**
  - The module provides an overall satisfying learning experience.
  - The module represents the academic rigour of a significant learning experience.
  - 3.6
  - 3.6

- **Behaviour**
  - This module will impact my behaviour and attitude towards patient/medication safety in the future.
  - 4.0

- **Make it Easy to Learn**
  - Multiple learning styles were utilized to portray the content (writing, graphics, audio, application).
  - Graphic or media elements illustrate, clarify, or enhance information presented in the text.
  - Content and activities are logically organized and clearly identified.
  - 3.4
  - 3.1
  - 4.1

- **Engagement is Key**
  - The design and layout of the module is interactive to maintain the attention and interest of learner.
  - Activities in the module reflected the content and enhanced learning.
  - 3.2
  - 3.9

- **Content Matters**
  - The information in the module was applicable to my practice.
  - Learning objectives and instructional activities are closely aligned.
  - 3.9
  - 4.2

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