

An exploration of IPAC educational intervention research: What do we mean by education?

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Appendix B

Concept in studies related to theory, learning and instructional design

Papers	Description of Discussion in Educational Categories			Education Strategy
	Theory	Learning	Design	
Papers with all three categories (N=10/122)				
Alemagno et al., 2010	Assumption: behavioural normative and control beliefs are influenced by education.	Cursory discussion: learning influenced through self-assessment, peers, and superiors.	Pilot project informed design; implementation process was described.	Online education with informational tips via email.
Atack & Luke, 2008	Study based on variables influencing knowledge transfer.	Focus was on knowledge transfer.	Described online module development.	Interactive online modules.
Chimango et al., 2009	Description: Social Cognitive Learning Theory.	Discussed teaching relationships with learners and the teaching environment.	Described the peer group intervention and implementation process.	Peer group-guided role play, discussion demonstration, and feedback.
Columbine & Wharrad, 2007	Referred to Problem-based learning, constructivist and social constructivist theory.	Referred to the learning process: learners must actively engage with material and knowledge is socially constructed.	Theory informed design; detailed description of the design and implementation process.	Online learning with interactivity using photos and video clips.

Papers	Description of Discussion in Educational Categories			Education Strategy
	Theory	Learning	Design	
Cooper, 2004	Theory informed the choice of methodology (Action Research). Assumption that educational activities in clinical environments are more likely to change practice.	Provided a definition of learning; discussed adult learning and processes that facilitate learning.	Design described in relation to the Action Research methodology was informed by theoretical concepts.	Use of Link Nurses as role models practice settings.
das Neves et al., 2006	Assumption: traditional educational strategies are not effective. Education strategies that facilitate learner knowledge construction were needed to change behaviour.	Briefly discussed learning experience and relevance to the learner in relation to the context of ideas, feelings, and social and cultural practice.	Described the development and implementation of educational strategy.	Musical parodies, posters, and hand hygiene phrases.
Mikkelsen et al., 2008	Discussion of learning philosophies in relation to learning environment processes.	Defined learning process and discussed the cognitive framework of scaffolding.	Provided a description of the simulation scenarios and implementation process.	Scenario-based simulations with and without teachers.
Pellowe et al., 2010	Discussion of Blended learning and Community of Inquiry framework that was student-centred and activity-based.	Discussed learning environments, learning styles, and social and collaborative learning as means of engaging students in critical discourse and reflection.	Provided an overview of e-learning modules in relation to the blended learning program.	Online education as part of a blended learning program that utilized simulations.

Papers	Description of Discussion in Educational Categories			Education Strategy
	Theory	Learning	Design	
Pratt et al., 2005	Intervention based on a Blended Learning.	Discussed e-learning in context of teaching and learning processes identifying features of the learning process that are served by the design of the e-learning.	Detailed description of the development phases following the ADDIE model.	Blended learning with a focus on e-learning modules.
Wiles et al., 2015	Experiential Learning in regards to Kolb's four stages of learning.	Discussed active learning, aural and visual modalities, and teacher-centred to learner-centred.	Described the scenarios.	Computer-based instruction and simulation.
Papers with any two categories (N=10/122)				
Bryce et al., 2008		Cursory discussion of self-paced learning; flexibility of time, place, and space for learning as it relates to knowledge transfer.	Detailed description of modules following and ADDIE design process.	Online modules with interactivity using drag-and-drop technology.
Creedon, 2005	Framework based on the PRECEDE health education theory for study design, data collection, and education strategies.		Strategies designed for the purposes of provision of knowledge.	Knowledge sheets and posters as part of a multimodal intervention.

Papers	Description of Discussion in Educational Categories			Education Strategy
	Theory	Learning	Design	
Creedon, 2006	Detailed description of the PRECEDE framework.	Education focused on knowledge transmission. Provided an operationalized definition of knowledge.		
Delaney et al., 2016	Limited: medical simulation informed the design of clinical scenarios.		Limited description of content development with a focus on knowledge and tasks.	Simulation.
Englert & McDermott, 2016	Referred to Constructivist, Kolb's, and Dewey's learning theories.		Described low- and high-fidelity simulation teaching and learning strategies.	Simulation.
Erasmus et al., 2011	Self-regulation, Social Learning, Social Influence, and Leadership theories informed the research.	Education facilitated knowledge through acquisition of facts, risk perception and creating action plans.		Online modules.
Garland, 2014	Defined the concept of Blended Learning.	Referenced active, deep learning, and critical thinking verses didactic learning approaches.		Blended learning using online modules with interactive activities.

Papers	Description of Discussion in Educational Categories			Education Strategy
	Theory	Learning	Design	
Gould & Chamberlain, 1997	Framework for ward-based education with rationale that education and feedback in the practice setting improved performance.		Discussed education implementation.	Ward-based teaching with demonstration, practice, feedback, and discussion.
Hung et al., 2015		Limited discussion of simulated and virtual environments enabling experiential and active learning.	Description of online computer simulated program.	Online program.
Jansson et al., 2016	Cursory reference to simulation pedagogy.	Cursory discussion of high-fidelity methods associated with improved learning and critical outcomes.		Simulation.
Papers with any one category (N=14/122)				
Allen et al., 2014		Cursory discussion of shift from traditional evidence-based to safe, experiential learning environments to improve mastery of skills.		Simulation.
Anderson et al., 2015			Description of simulation program.	Simulation.
Coopersmith et al., 2002			Brief description of the module content and implementation process.	Self-study module.

Papers	Description of Discussion in Educational Categories			Education Strategy
	Theory	Learning	Design	
Koo et al., 2016	Cursory reference to adult learning theory and self-directed learning.			Self-directed modules.
Larson et al., 2000	Discussed the PRECEDE behaviour change model and Schein's framework for organizational change.			Education session was a platform for brainstorming organizational change strategies.
Milward & Cooper, 2007	Mentioned competency-based education as the framework.			Lecture with demonstration.
Prieto & Macleod Clark, 2005			Cursory reference to the design of the education and support program.	One-on-one practical instruction with performance feedback.
Reime et al., 2008		Discussed learning processes and Bloom's cognitive domain taxonomy; superficial and in-depth learning.		Comparison of lecture vs e-learning program.
Rojo et al., 2016	Cursory reference to simulation facilitating translation of knowledge into practice.			Simulation.
Sjöberg & Eriksson, 2010	Stated assumption was that lectures would affect staff knowledge and attitudes.			Lecture.

Papers	Description of Discussion in Educational Categories			Education Strategy
	Theory	Learning	Design	
Stock et al., 2016			Design based on objective structured clinical exams (OSCE).	Simulation.
Thomas et al., 2005			Description of poster design and implementation.	Posters.
Watson, 2016	Referred to Bandura's social cognitive theory.			Education module with posters, brochure, and feedback.
West et al., 2006			Broad overview of the development of the educational program.	E-learning, distance learning, and classroom sessions.