

Section 4.3

Educational theories

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Educational theories

- Can be used to inform the design and testing of educational interventions
- Can help explain the effectiveness of educational interventions
- Knowledge deficits (identified or implied) usually prompt the use of educational interventions



Learning domains

- Cognitive – acquisition of academic knowledge
 - Didactic lectures, academic detailing and computer-based modules
- Affective – adoption of values, beliefs and attitudes that are important precursors to behavior change
 - Group interaction, self-evaluation, role play, case studies and simulation
- Psychomotor – skill acquisition and development
 - Supervised skill performance, practice

(Stuart et al., 2004)



Learning styles

- **Activist** learns through experience, tends to adopt an innovation readily but may become bored and quickly reject the innovation
- **Reflective** systematically collects information on all options, and can procrastinate leading to delayed adoption
- **Theoretical** analyzes the information and models cause and effect before acting
- **Pragmatic** bases behavior on experience with the innovation

(Grol et al., 2007; Lewis & Bolden, 1989)



Motivation to learn

- **Intrinsic sources** from within the individual e.g., interest in acquiring knowledge, and are considered more powerful than external sources
- **Extrinsic sources** external e.g., employment or career advancement requirements, mandate or directive

(Grol et al., 2005)



Learning theories

- Behaviorist approaches
- Cognitivist approaches
- Constructivist approaches
- Humanist approaches
- Social learning approaches



Behaviorist approaches

- Behaviorist theorists:
 - Believe individuals' behavior is influenced by the context in which they work
 - Look for observable and measurable responses to stimuli (Merriam & Caffarella, 1999)
 - Believe reinforcement is a valuable part of learning (Mann, 2004)
- Behavior theory can inform design of interventions such as:
 - Performance appraisal
 - Development of behavioral learning objectives
 - Use of competencies



Cognitivist approaches

- Examine approaches to acquisition, interpretation, storage and use of information in order to develop awareness, understanding and meaning (Merriam & Caffarella, 1999)
- Cognitive theorists believe modeling behavior is one means by which learning occurs
- Cognitive theory can inform design of interventions such as:
 - Preceptor programs
 - Role modeling
 - Problem-based learning methods



Constructivist approaches

- Claim that learning is based on reflection and evaluation of past experience (Merriam & Caffarella, 1999)
- Constructivist theory can inform design of interventions such as:
 - Reflective journaling
 - Critical incident debriefing
 - Preceptorship programs to stimulate reflection on practice



Humanist approaches

- Conceptualize learning as a function of growth (Merriam & Caffarella, 1999)
- Learning through experience, autonomy and individual responsibility for learning are emphasized (Merriam & Caffarella, 1999)
- Adult learning theory dominates the humanist approaches and the principles of adult learning can be used in the development of education interventions such as:
 - Self-directed learning
 - Small group work
 - Academic detailing



Social learning theory

- Focuses on how learning occurs through social and environmental interaction (Merriam & Caffarella, 1999)
- Learning can occur through observation of others and personal experience (Mann, 2004)
- Social learning theory can inform design of interventions such as:
 - Role modeling
 - Mentorship programs



Evidence for learning theories

- Limited evidence for these theories exists (Stuart et al., 2004)
- The effectiveness of educational interventions has been the focus of a large body of research
 - Traditional, passive, non-interactive teaching methods have little effect on health professionals' behavior and no recognizable effect on patient outcomes (Stuart et al., 2004; Mazmanian & Davis, 2002)
 - Some elements of continuing education have been shown to be effective among physicians (Mazmanian & Davis, 2002)



Future research

- Research testing the effectiveness of educational interventions should be:
 - designed to promote generalizability and to avoid methodological limitations such as unit of analysis error
 - underpinned by theory
 - designed to test the assumptions of educational theory
 - reported in detail to include description of the intervention and context
 - include an economic evaluation



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