Self-Efficacy

Education 173
Cognition and Learning in Educational Settings
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A Challenge to Behaviorism

• Do We Have to Experience Reinforcement to Learn? No.
• People Can Learn by Observation Alone
  – About the usefulness of behavior
  – About the consequences of behavior
• Social Cognitive Theory
  – Advanced by Albert Bandura
  – Recognized internalized aspects of learning/behavior, including imagination of likely consequences, goal-setting, and beliefs about one’s own capabilities

Vicarious Learning/Modeling

• Vicarious learning speeds up the process
  – Some imitative learning is hard-wired (nativist)
• Reinforcement is not necessary for vicarious learning (but it is for later performance)
• Animals (including nonhuman primates) are poor at imitative learning
  – How are innovations propagated?
  – How is culture maintained?
Factors Affecting Modeling

• Response Facilitation
  – Including unconscious mimicry
  • Chameleon Effect
  • Posture; gestures; speech, clothing; actions
• A Model Is More Effective If He/She is Perceived as Having High Status
  – Why do celebrities endorse projects?

Different Kinds of Models

• Types of Models
  – Mastery Models
  – Coping Models
    • Powerful if combined with cognitive modeling
    • Teaches how to cope with errors, setbacks, self-doubt
    • Peer coping and teacher coping are both helpful
• Variety of Models
  – Male and female
  – Different levels of ability
  – “Anti-model”: What not to do!

More On Modeling

• Vicarious Consequences Inform and Motivate Behavior
  – Bobo doll
  – Watching violence produced more aggression
• Self-Modeling Can Be Highly Effective
  – Dowrick: Spliced videotape of successes
    • Children in physical therapy practice walking
  – Also effective for learning mathematics skills
  – Do you visualize your past successes?
Self-Efficacy

- Beliefs About Capability to Perform
- Not the Same as Ability
  - Might be higher
  - Might be lower
- Domain-specific
  - Does Not Generalize (Probably)
- Self-Efficacy Can Influence:
  - Choice of activities
  - Effort expenditure
  - Persistence
  - Accomplishment (e.g., learning, performance)

Triadic Reciprocity

- Person, Environment, and Behavior are Related
- “Person” Includes Relatively Stable Traits
  - Such as self-efficacy
    - Also intelligence, personality traits
- Reciprocity Means Mutual Influence
  For example, behavior (performance attainments) can influence person (self-efficacy beliefs)
  Likewise, self-efficacy can influence performance

How is Self-Efficacy Influenced?

- Performance Attainments
- Vicarious Experiences
  - “If he can do it . . .”
- Social Persuasion
  - Teachers, parents, peers
- Physiological Indexes
  - Heart rate, perspiration
  - Signs of anxiety
Applications of Self Efficacy

• To Education
  – Positive classroom atmosphere
  – Higher student achievement
    • Causal direction?
    • Triadic reciprocity

• To Health
  – Smoking cessation
  – Heart attack recovery

• To Other Areas
  – Treating Phobias, Athletic Performance

Applications to Instruction

• Self-Efficacy as Goal for Student
  – “I can do it”
  – Also, effort attributions

• Teacher Efficacy
  – Timeline for achieving expertise
  – Collective teacher efficacy