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EDL 713: Applied Learning

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Key Terms

AROUSAL – Page 15

CELL ASSEMBLIES – Page 14

COGNITIVE CONSISTENCY – Page 17

CONSONANCE - is when two behaviors follows from one another; I don't like Joe and I avoid Joe.

DISSONANCE is when two behaviors are opposite; I don't like Joe and I see Joe all the time.

IRRELEVANT - behaviors have no relation; I like blue, and my house is brick.

LAW OF EFFECT: Consequences of behavior are motivating and produce learning. Rewarding consequences are learned and punishing consequences are not learned.

LAW OF READINESS: Acting is satisfying and not acting is annoying.

TRAITS - are unique realities within individuals that help to account for the relative consistency of behavior across situations

Freud's Theory

TYPE	Behavioral
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Motivation is psychical energy. Energy develops when basic needs exist; the energy is released when the individual channels energy into behaviors to reduce needs. These energies are satisfied unconsciously.</p> <p>Energy can be repressed when more pain is generated than pleasure. The energy is not lost, and Freud postulated that the energy will manifest itself in distorted ways (neurotic behavior).</p>
IMPLICATIONS	<ul style="list-style-type: none">• Behaviors and motivations can be influenced by unconscious influences.• Some behaviors may not represent the apparent motives.
LIMITATIONS	<ul style="list-style-type: none">• Downgrades Personal cognition and environmental factors.• No direct guidance on teacher/student and student/student interaction.
APPLICATIONS	I will be aware that a student's behavior may, in fact, be caused by something I, nor the school, can control.

Instinct Theory

(James, W. and McDougall, W.)

TYPE	Hybrid
ASSUMPTIONS	Organismic
DESCRIPTION	<p>Instincts are innate propensities that manifest themselves in behavior. James thought that instincts could not explain all behavior, but provided a base; overlapped reflexes and learning.</p> <p>McDougall thought instincts could explain all behavior. Instincts are not a disposition to act in a certain way, but provided some cognitive ways to behave.</p> <p>A person is aware of ways to satisfy an instinct, has emotions aroused by the instinct, and strives to attain the goal of the instinct.</p>
IMPLICATIONS	<ul style="list-style-type: none">• environment plays an important role• Applicable more to young children• “Nature vs. Nurture” is the current form
LIMITATIONS	<ul style="list-style-type: none">• Eliminates Learning theories• Fails to explain behaviors (causes, interactions, modifications)
APPLICATIONS	

Volition Theory (Wundt, W., Ach, N., and James, W.)

TYPE	Cognitive
ASSUMPTIONS	Organismic
DESCRIPTION	<p>Based on Greek philosophy which held that the mind comprises knowing, feeling, and willing (cognition, emotion, motivation). The will reflected an individual's desire, want or purpose; volition was the act of using the will.</p> <p>Wundt pioneered Introspection (verbal report of immediate experiences related to a stimulus).</p> <p>James theorized that Will was a state of mind in which we desire a particular action within our power. Volition was the process of translating intentions into actions.</p>
IMPLICATIONS	<ul style="list-style-type: none">• People choose their actions based on desires.
LIMITATIONS	<ul style="list-style-type: none">• Vague and difficult to test• Does not address the formation of goals and their attainment.
APPLICATIONS	

Connectionist Theory (Thorndike, E. L.)

TYPE	Behavioral
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Learning involves the formation of connections between sensory experiences and neural impulses that manifest themselves behaviorally. Learning happens by trail-and-error.</p> <p>Organisms are placed in problem situations where a goal is to be reached. Several solutions to reaching the goal are performed in sequentially. Consequences are experienced by the organism. Solutions that are successful are remembered, ones that fail are forgotten.</p> <p>LAW OF EFFECT: Consequences of behavior are motivating and produce learning. Rewarding consequences are learned and punishing consequences are not learned.</p> <p>LAW OF READINESS: Acting is satisfying and not acting is annoying.</p>
IMPLICATIONS	<ul style="list-style-type: none">• When students are ready to learn, engaging in learning activities is satisfying.• When not ready to learn, but are forced to, learning is annoying.• Students are motivated when they are ready to work and the consequences are rewarding.
LIMITATIONS	<ul style="list-style-type: none">• Ignores cognitive processes.
APPLICATIONS	I will remember that rewarding actions are more successful than punishing actions.

Classical Conditioning Theory (Pavlov, I. P.)

TYPE	Behavioral
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Involves the presentation of an unconditioned stimulus to elicit an unconditioned response eventually leading to a neutral stimulus eliciting the same response.</p> <p>Prototypical experiment: Hungry dog salivates (unconditioned response) upon seeing food (unconditioned stimulus). Several repetitions are made with the use of a bell, or similar device, being rang right before the food. Eventually, the dog will salivate at the sound of a bell (neutral stimulus).</p> <p>Neutral stimulus must be reinforced; it can be forgotten.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Learning accompanied with pleasurable consequences is important.• School phobia and test anxiety are conditioned responses.
LIMITATIONS	<ul style="list-style-type: none">• Ignores cognitive factors• Conditioning is never automatic
APPLICATIONS	

Operant Conditioning Theory (Skinner, B. F.)

TYPE	Behavioral
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Antecedent → behavior → consequence</p> <p>Consequences affect the rate of behavior repetition. Positive reinforcers, when GIVEN after a response, increase the future rate of that response in a similar situation. Negative reinforcers, when REMOVED after a response, increase the future rate of that response in a similar situation. Punishment decreases the rate of responses.</p> <p>Reinforcers and punishments vary from person to person.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Behavior can be modified by rewards• Reinforcement must be continued• Students work for pleasurable consequences
LIMITATIONS	<ul style="list-style-type: none">• Ignores cognitive factors• Must research the correct rewards and punishments per student
APPLICATIONS	

Systematic Behavior Theory (Hull, C.)

TYPE	Behavioral
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Drives are internal forces that cause organisms to seek essential elements when the organisms are deprived of them. Hull added the concepts of habit strength and inhibition. Habit strength is the strength of the stimulus-response association; it increases with repeated success. Inhibition is fatigue of the association with repeated failures. Effective reaction potential is Hull's term for the probability of a behavior.</p> <p>To Hull, innate behaviors only satisfy base needs; learning only occurs after the innate behaviors fail.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Drive must be present for responses to happen.• Learning must satisfy the wants of the organism.
LIMITATIONS	<ul style="list-style-type: none">• Humans can override basic needs.• Drives are not always biological.• Long term goals are ignored by this theory.
APPLICATIONS	

Incentive Motivation Theory (Hull, Spence)

TYPE	Behavioral
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Incentive motivation is a modification by Hull to address larger goals and their reward. Larger goals have larger rewards, and thus have larger effective response potential.</p> <p>Also provided the concept that learning can take place sans reward.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Large rewards increase response potential
LIMITATIONS	<ul style="list-style-type: none">• Experiments by rats (Tolman) shows that learning occurs without reward.• Ignores cognitive influences.
APPLICATIONS	

Mowrer's Theory

TYPE	Behavioral
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Mowrer drive theory stresses the role of emotions that mediate the relation of stimulus and response. Four main emotions were postulated (fear, relief, hope, and disappointment). Fear instigates behavior to avoid danger; Relief occurs when fear is reduced; Hope decreases an organisms drive; and disappoint happens when hope is diminished.</p> <p>Does not address the learning of new behavior; only explains established behavior.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Emotion plays a critical role in eliciting a response.• The four basic emotions are applicable to school settings.• Empathy has to be understood for teachers.
LIMITATIONS	<ul style="list-style-type: none">• Does not address function of cognition.• Does not explain new behaviors.
APPLICATIONS	

Theory of Purposive Behaviorism (Tolman, E. C.)

TYPE	Cognitive
ASSUMPTIONS	Mechanistic
DESCRIPTION	<p>Purposive behaviorism stresses goals. Expectancies, in the form of relationships between environmental stimuli or stimuli combined with a response, help people form cognitive maps to attain the goal(s). Expectancies help one attain goals.</p> <p>In one of his studies, Tolman (1932) found that when rats are presented with obstacles to a known food source, rather than choose a pathway close to the original path they choose a path aimed toward the original location of the food.</p> <p>In another study, involving rats, Tolman found that latent learning can also occur in the absence of a goal or reinforcement.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Learning can occur without reward or drive reduction.• Incentives affect performance rather than learning.• Learning can occur without reward.
LIMITATIONS	<ul style="list-style-type: none">• Tolman's theory does not consider the complexities of human motivation.
APPLICATIONS	<ul style="list-style-type: none">• I'll be wary of incentive based programs where the influence of the incentive achieves on the tests rather than improving what it purports to improve.

James-Lange Theory

TYPE	Hybrid
ASSUMPTIONS	Contextual
DESCRIPTION	<p>An arousal theory, which at its basic form is neither cognitive nor behavioral. Arousal theory holds that: Perception → Emotion → Behavior</p> <p>James-Lange altered that view: Perception → Behavior + internal response → Emotion i.e. emotion does not effect behavior it is caused by behavior.</p> <p>Altered by Cannon by saying: Perception → Emotion + internal response → Behavior i.e. emotion is a PART but not the whole of predicting behavior</p>
IMPLICATIONS	<ul style="list-style-type: none">• Student emotional level plays a partial role in their behavior• Eliminate boredom, incorporate novelty and incongruity.• Develop students' positive emotions of learning.• The ways in which students perceive events affect motivation.
LIMITATIONS	<ul style="list-style-type: none">• Cannon showed by removing nerves in cats that produce body changes that internal response was not necessary to produce emotion (in the case of cats, rage & fear).• Debate still rages about role of emotion in motivation within professional circles.
APPLICATIONS	

Hebb's Neurophysiological Theory

TYPE	Hybrid
ASSUMPTIONS	Contextual
DESCRIPTION	<p>Another arousal theory that maintains that motivation results from cell assemblies that represent knowledge. They developed through repeated use. Motivation is linked to cell assemblies:</p> <ul style="list-style-type: none">Moderate levels keep assemblies active;High levels disrupt assemblies;Low levels cause the secession of functioning.
IMPLICATIONS	<ul style="list-style-type: none">• Student emotional level plays a partial role in their behavior• Develop students' positive emotions of learning.• The ways in which students perceive events affect motivation.• The Brain requires activity
LIMITATIONS	<ul style="list-style-type: none">• Debate still rages about role of emotion in motivation within professional circles.
APPLICATIONS	<p>I will not allow students have large spans of free time. Hebb holds that the brain requires activity, and when arousal is low, they will play to provide cognitive arousal (which usually gets them into trouble).</p>

Berlyne's Theory

TYPE	Hybrid
ASSUMPTIONS	Contextual
DESCRIPTION	<p>In Berlyne's theory, arousal is nearly the same as drive. Exploratory activity increases arousal and the properties of stimuli (novelty, ambiguity, incongruity, surprise) maintain a brain's optimal level. If too low, students are bored; if too high, we are motivated to lower it.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Student emotional level plays a partial role in their behavior• Develop students' positive emotions of learning.• The ways in which students perceive events affect motivation.• The Brain requires activity
LIMITATIONS	<ul style="list-style-type: none">• Contrasts with Hull's theory which holds that motivation is a drive to reduce arousal.• Debate still rages about role of emotion in motivation within professional circles.
APPLICATIONS	

Schacter's Theory of Emotion

TYPE	Hybrid
ASSUMPTIONS	Contextual
DESCRIPTION	<p>Schacter says that emotion involves physiological arousal and a cognitive label (perceived cause). If either is absent the emotion will not be complete.</p> <p style="padding-left: 40px;">If someone pushes you, you get angry, because someone pushed you. Emotion → Cognitive label</p> <p>If a cognitive label cannot be easily found, the organism will search the environment to provide one.</p> <p>Schacter's views are similar to James-Lange but adds the cognitive association.</p>
IMPLICATIONS	<ul style="list-style-type: none">• The way in which student's interpret events effects their emotion and motivation.
LIMITATIONS	<ul style="list-style-type: none">• Replication of Schacter's experiments involving epinephrine and placebo have not all been successful.• Role of emotion still debated in professional circles.
APPLICATIONS	

Balance Theory (Heider)

TYPE	Hybrid
ASSUMPTIONS	Contextual
DESCRIPTION	<p>Cognitive Consistency theory examines how cognitions intertwine with and effect behavior. Balance is one such theory that it's author, Heider, postulated the tendency for relations among persons, situations, and events to be balanced cognitively.</p> <p>Balance is achieved when all elements are positive or have a 1:2 positive : negative ratio. If I like Bill and Dave and Dave likes Bill and me and Bill likes Dave and me that equals balance.</p> <p>Imbalance occurs with all negative or 2:1 positive : negative ratios. I like Dave and Bill but Bill does not like Dave, then imbalance happens. People try to resolve conflicts when imbalance strikes.</p>
IMPLICATIONS	<ul style="list-style-type: none">• When imbalance occurs, organisms try to find resolution.
LIMITATIONS	<ul style="list-style-type: none">• Does not predict how people resolve conflict• Unbalanced relationships are important; does not contain situations when organisms do not care about the elements.
APPLICATIONS	

Cognitive Dissonance Theory (Festinger)

TYPE	Hybrid
ASSUMPTIONS	Contextual
DESCRIPTION	<p>Another cognitive consistency theory given by Festinger. It holds that people strive to maintain consistent relations among beliefs, attitudes, opinions, and behaviors. Behaviors are consonant, irrelevant, or dissonant.</p> <p>Consonance is when two behaviors follows from one another; I don't like Joe and I avoid Joe.</p> <p>Irrelevant behaviors have no relation; I like blue, and my house is brick.</p> <p>Dissonance is when two behaviors are opposite; I don't like Joe and I see Joe all the time.</p> <p>People try to resolve dissonance by:</p> <ol style="list-style-type: none">1. Change cognition: "I like Joe."2. Qualify: "I see Joe because I work with him."3. Alter behavior: "I avoid Joe."
IMPLICATIONS	<ul style="list-style-type: none">• Relates how cognitive conflicts are resolved.• Provides dissonance as a motivator.
LIMITATIONS	<ul style="list-style-type: none">• Vague.• Difficult to verify experimentally.• Additional factors are needed for motivation.
APPLICATIONS	

Trait Theory (Allport)

TYPE	Hybrid
ASSUMPTIONS	Organismic
DESCRIPTION	<p>Traits are unique realities within individuals that help to account for the relative consistency of behavior across situations. Allport believed that people were unique systems constantly evolving and striving toward goals.</p> <p>Traits allow people to view different situations similarly. e.g. Honest people will be honest in very diverse situations.</p>
IMPLICATIONS	<ul style="list-style-type: none">• A person's traits will hold in diverse situations.
LIMITATIONS	<ul style="list-style-type: none">• Conflicting evidence about whether the traits are truly consistent across situations.• Little practical application.
APPLICATIONS	

Humanistic Theories (Maslow and Rogers)

TYPE	Cognitive
ASSUMPTIONS	Contextual
DESCRIPTION	<p>These theories stress a person's potential and ability. They have choices and seek control over their lives.</p> <p>Assumptions 1) Study of humans is holistic; 2) choice, creativity and self actualization are important; 3) Use well controlled studies.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Focuses on enabling people to strive for challenge and maximize their potential.
LIMITATIONS	<ul style="list-style-type: none">• Too general• Has many technical constructs that are difficult to measure and define.
APPLICATIONS	<p>As a teacher I will separate the behavior of a student from the student. What they do will not alter my how I fell about them, and I will accept them for who they are.</p>

Atkinson's Model of Achievement

TYPE	Cognitive
ASSUMPTIONS	Not provided by authors
DESCRIPTION	Atkinson said that motivation was a product of three components: Motives, Probability of success, and incentive value. Motives are individual predispositions (approach success and avoid failure). Success is the chance that the student will complete the task, and incentive value is pride in accomplishment.
IMPLICATIONS	<ul style="list-style-type: none">• Motivation is highest at intermediate task difficulty.• First theory to move away from behavioral S-R pairs.
LIMITATIONS	<ul style="list-style-type: none">• Effectively eliminated incentive value in the mathematical construction.
APPLICATIONS	As a teacher, I will maintain an intermediate level of difficulty. I will be careful of making tasks too difficult or too easy.

Eccles & Wigfield's Model

TYPE	Cognitive
ASSUMPTIONS	Not provided by authors
DESCRIPTION	<p>The two most important predictors of achievement are expectancy and task value. E&W model does not use motives such as need for success or fear of failure.</p> <p>Task value refers to, "Why should I do this task?" Expectancy refers to, "Will I be able to do this task?"</p> <p>Another two motivational components are: Affective memories – previous affective experience with a task Goals/Self-schemas – Self concepts about themselves.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Expectancy, self-concepts, ability perceptions, and probability of success predict actual achievement in terms of grades and achievement tests. Values are not significant.
LIMITATIONS	<ul style="list-style-type: none">• Specificity of domains needs to be resolved.• It's not known if expectancy gives rise to values or if the opposite is true. In other words, does ability make a student want to do a task, or does doing a task give rise to the ability?
APPLICATIONS	

Model of Motivated Learning (Corno, Mandinach, Schunck)

TYPE	Cognitive
ASSUMPTIONS	Not provided by authors.
DESCRIPTION	<p>Motivated learning is motivation to acquire skills and strategies rather than perform tasks. Abilities and attitudes, prior experiences, and social support are the qualities that determine a student's self-efficacy. Social support is from teachers and parents.</p> <p>Principles:</p> <ul style="list-style-type: none">Make it clear students are competent to learn materialPoint out how the learning is usefulShow them how their performance is improvedTailor to individual stylesHave students work toward goalsEnsure that feedback is credibleLink rewards with progressUse models that build self-efficacy
IMPLICATIONS	<ul style="list-style-type: none">• Teachers have tremendous power to motivate students through praise, teaching strategies, feedback, and rewards that build self-efficacy.• Rewards should be focused on progress, not completion.
LIMITATIONS	None provided by authors.
APPLICATIONS	I will link rewards with progress and not just completion. I will adhere to the principles given above.

Maslow's Hierarchy of Needs

TYPE	Cognitive
ASSUMPTIONS	Not provided by authors.
DESCRIPTION	<p>Focuses on human growth and development, not behavior or animals. Maslow lists a hierarchy of needs from those needs that need to be fulfilled first to the ones that can be last.</p> <ul style="list-style-type: none">Physiological needs (eg hunger)Safety needsBelongingness and loveEsteem – need to achieveSelf-actualization – growth through potential and capability
IMPLICATIONS	<ul style="list-style-type: none">• Unsatisfied needs cause behavior to satisfy the need.• School lunch, breakfast, social and health services, are based in part on Maslow's theory.
LIMITATIONS	<ul style="list-style-type: none">• Difficult to find needs theory that is short enough to be usable, and has predictive properties.• Does not explain behaviors.• Maslow's is too short to explain all behavior effectively.
APPLICATIONS	

Goal Orientation Theory (Dweck)

TYPE	Not provided by authors.
ASSUMPTIONS	Not provided by authors.
DESCRIPTION	<p>Goal orientation theory was designed to specifically to explain student achievement and thus is most applicable to the classroom. Goal orientation is the purpose for engaging in achievement behavior. There are two approaches:</p> <p>Mastery orientation Focus on mastering task, learning and understanding. Focus on avoiding misunderstanding, not learning.</p> <p>Performance orientation Focus on being superior; getting highest grades. Focus on avoiding inferiority, not looking stupid.</p> <p>TARGET: Task, Recognition, Grouping, Evaluation, Time.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Students will adopt goal orientations that are stressed on the classroom.• Gives appropriate teaching techniques to maximize the principles outlined in the TARGET mnemonic.
LIMITATIONS	<ul style="list-style-type: none">• Applies to whole schools better than just individual classrooms.
APPLICATIONS	

Self-Determination Theory (de Charms, Rotter, White, Harter)

TYPE	Cognitive
ASSUMPTIONS	Not provided by authors. Some subtheories are organismic.
DESCRIPTION	<p>Self-determination is an intrinsic motivation theory and says that motivation comes from the belief that people can exert control over the environment. Humans have a need to be autonomous and engage in activities because they want to.</p> <p>Self-determination is the process of using one's will; will is the capacity for a human to choose how to satisfy its needs.</p> <p>Three needs are: Competence, Autonomy, and relatedness.</p> <p>Autonomy refers to the need to feel a sense of control. If intrinsic motivation is the human need to be competent, then self-determination is the relation to the environment.</p>
IMPLICATIONS	<p>Intrinsic motivation can be enhanced by:</p> <ul style="list-style-type: none">• Challenging students• Piquing curiosity• Allowing control• Engaging in fantasy
LIMITATIONS	<ul style="list-style-type: none">• Does not explain behaviors.• Many points not clearly specified.• Model continually evolves.
APPLICATIONS	

Flow Theory (Csikszentmihalyi)

TYPE	Cognitive
ASSUMPTIONS	Not provided by authors
DESCRIPTION	<p>Flow, the sensation that people feel when they act with total involvement, has four basic facets:</p> <ul style="list-style-type: none">• Boredom• Anxiety• Task difficulty• Student expertise <p>When boredom is equal to anxiety and task difficulty is equal to student expertise then flow follows. Keeping the two sets equal is the key.</p>
IMPLICATIONS	<ul style="list-style-type: none">• Teachers can modify teaching procedures and techniques to motivate students.
LIMITATIONS	Not provided by authors
APPLICATIONS	Similar to Atkinson's model, I will ensure that task difficulty is always in range with my student's abilities.