

BACB 4th Edition Task List Items

Section III: Foundational Knowledge Accompanying the BACB Fourth Edition Task List

	Term	Definition	Applied Example
FK-01	Lawfulness of behavior	Determinism is the notion that the universe is structured by laws in an orderly way, and that all phenomena are an effect of other occurrences	Current behavior is determined by history of reinforcement. A child's tantrums are determined by the reactions of others to tantrums in the past.
FK-02 a.	Phylogenic selectionism	Studies the history of a species' adaptations; based on the theory of evolution and natural selection; that species acquired certain behaviors as a means to survive	A specific species of bird will evolve specific pecking behavior based on the environment and food available.
FK-02 b.	Ontogenic selectionism	The development of an individual's behavior throughout its life; the history of its adapting behavior due to reinforcement and punishment	A successful student has good study habits because those behaviors were reinforced with good grades, and poor study behaviors were punished with poor grades. Ultimately, the student continues to have good study behavior in future educational situations.
FK-02 c.	Cultural selectionism	The passing of a certain behavior from one group member to another; cultural norm selected by means of group survival	Methods of preparing food, building shelter, or raising children that are learned through exposure to cultural norms.

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FK-03	Determinism	The notion that the universe is structured by law with order and that all phenomena are an effect of other occurrences	A person's ability to speak is a result of environmental contingencies that shaped articulate language. Behavior treatment plans are effective because behavior is lawful.
FK-04	Empiricism	The practice of observing without bias or prejudice	Determining that a social skills training program is effective by directly observing and comparing social behavior before, during, and after the program.
FK-05	Parsimony	Simplistic and logical explanations must be ruled out both experimentally and conceptually before abstract concepts are considered for investigated phenomena	Classical conditioning (e.g. Little Albert) is a more parsimonious explanation for phobias than an Oedipal complex (e.g., Little Hans).
FK-06	Pragmatism	Based on practicality rather than theories; inductive reasoning; often goes hand in hand with behaviorism	Not expecting someone to know how to speak Greek, if he has never been exposed to it.
FK-07 a.	Environmental explanations of behavior	Measuring and observing events as a way to explain behavior; environmental variables influence and affect behavior	The child screams because in the past screaming was followed by attention by his teacher who was talking to another child at the time the screaming began.
FK-07 b.	Mentalistic explanations of behavior	Study of behavior that assumes that an inner dimension impacts the observable dimension; often involves hypothetical constructs and explanatory fictions	The child screams for teacher attention because of inner conflict based on parent's disapproval of the child.

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FK-08 a.	Radical behaviorism	Understanding of all human behavior, including private events, in terms of controlling variables	Thoughts are private, unobservable occurrences of verbal behavior, and are under the control of the same variables as observable verbal behavior. For example, seeing an airplane can occasion the thought "airplane," or the verbal expression "airplane."
FK-08 b.	Methodological behaviorism	Understanding of human behavior as only that which can be observed; private events are not able to be studied	Focusing on the topography and function of crying, rather than the emotions or thoughts that accompany it.
FK-09 a.	Conceptual analysis of behavior	Theoretical, conceptual understanding of behavior	Demonstration of stimulus control by teaching responses and non-responses to nonsense phrases.
FK-09 b.	Experimental analysis of behavior	Basic laboratory research of behavioral principles	Understanding conditioned reinforcement by training college students to prefer one color over another in a video game.
FK-09 c.	Applied behavior analysis	Using scientific processes to identify environmental variables which influence socially significant behavior, and creating a technology of behavior change which directly benefits research participants	Demonstrating that children who are non-verbal can learn to speak when attempts to communicate are systematically prompted, reinforced, and shaped.
FK-09 d.	Behavioral service delivery	Implementing and analyzing a plan intended to benefit a specific individual/situation, without experimentally analyzing the impact of the plan for that specific individual or situation	Introducing a class-wide token economy and collecting data on class behavior.

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FK-10 a.	Behavior	Everything an organism does that is observable and includes movement through space and time	Cheering at a concert.
FK-10 b.	Response	Specific instance of a behavior	Clapping your hands.
FK-10 c.	Response class	Topographically different responses that lead to the same consequence	You can turn off a light by flipping the switch with your hand, elbow, or foot - the light still goes off.
FK-11 a.	Environment	All things, excluding an organism's moving parts related to behavior, both inside and outside the skin of an organism	For a child in a classroom, environment might include air temperature, noise level, presence of specific people, condition of stomach acids based on recent meal, and presence of items on desk.
FK-11 b.	Stimulus	Any condition, event, or change in the physical world.	A light goes on.
FK-11 c.	Stimulus class	Group of stimuli that result in an identical response	Different shades of red are all called "red"; a red lego, red crayon, and red ball are all called "red."

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FK-12	Stimulus equivalence	Describes the emergence of accurate responding to untrained and non-reinforced stimulus-stimulus relations following reinforcement of responses to other stimulus-stimulus relations. A positive demonstration of reflexivity, symmetry, and transitivity is necessary to meet the definition of equivalence.	<p>Reflexivity: Given the written word "dog" and three other written words including "dog," "cat," and "mouse," the person picks the word "dog."</p> <p>Symmetry: A person is taught to pick the picture of a dog when shown the written word "dog," and without additional teaching, will pick the written word "dog" when shown a picture of a dog.</p> <p>Transitivity: A person is taught to pick the picture of a dog when hearing the spoken word "dog," and to pick the written word dog when shown a picture of a dog; without additional training, she can pick the written word "dog" when hearing the spoken word "dog."</p>
FK-13	Reflexive relations (US-UR)	Stimulus-response reaction; involuntary behavior is caused by an antecedent stimulus where the reflexive or respondent behavior is unlearned	Tickling a child (US) results in laughter (UR) without prior experience.
FK-14	Respondent conditioning (neutral stimulus becomes conditioned stimulus: CS-CR)	Neutral stimulus acquires the eliciting property of the unconditioned stimulus and becomes a conditioned stimulus through stimulus-stimulus pairing	Pairing a tickle (US) with a neutral stimulus such as wiggling fingers will eventually result in laughter (CR) to the wiggling fingers (CS), prior to the actual tickle.

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FK-15	Operant conditioning	Behavior change based on consequences of behavior	If a child is called on when he raises his hand in class, he is more likely to raise his hand in the future.
FK-16	Respondent-operant interactions	Respondent conditioning can lead to behavior patterns that are affected by operant conditioning	A dog is sniffing a flower (neutral stimulus) when he is stung by a bee (US) and feels pain (UR). The smell of flowers becomes a conditioned stimulus (CS) for fear (CR). The dog quickly learns to avoid flowers, because moving away from flowers is negatively reinforced by a reduction in fear.
FK-17	Unconditioned reinforcement	Reinforcement that is not learned; does not have to have been experienced in the past for it to be reinforcing; also called primary reinforcement	Shelter, food, sleep, and sex are all unconditioned reinforcers.
FK-18	Conditioned reinforcement	Conditioned reinforcement occurs when a neutral stimulus is paired with a primary reinforcer and then takes on reinforcing properties.	Tokens, social praise, and money are examples of conditioned reinforcers. They derive their reinforcing properties through prior pairing with primary reinforcers.
FK-19	Unconditioned punishment	A stimulus change that can decrease the future frequency of any behavior that precedes it without prior pairing with any other form of punishment	Loud noises and pain are often unconditioned punishers for most people.

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FK-20	Conditioned punishment	Conditioned punishment occurs when a neutral stimulus is paired with an existing punisher and then takes on punishing properties.	Mild parent disapproval such as a head-shake may function as a punisher if it has been paired with an unconditioned punisher such as yelling in the past.
FK-21	Schedules of reinforcement and punishment	Rules describing how and when a reinforcer or punisher will be delivered; describes the contingency between reinforcement or punishment and behavior.	Every response is reinforced when a child is initially learning to mand. When the child consistently uses the mand response, some instances will not be reinforced (either randomly or according to a specific schedule) to promote maintenance.
FK-22	Extinction	Behavior decreases due to previously delivered reinforcer being withheld following occurrence of that behavior	Withholding attention for out of seat behavior for a client when this behavior was previously reinforced by attention.
FK-23	Automatic reinforcement and punishment	Reinforcement and punishment that occur as a direct result of the behavior, with no social mediation	Hand-flapping that does not result in any other reinforcer (e.g., attention, escape, tangibles) probably occurs because of some automatic reinforcer. Touching a hot stove is unlikely to occur again in the future due to the automatic punishment of pain.
FK-24	Stimulus control	When one stimulus yields a higher response frequency than another stimulus	Braking a car is more likely in the presence of a red light than a green light.

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FK-25	Multiple functions of a single stimulus	Many different responses may occur in the presence of one stimulus	If you have a headache, you will do everything that may have helped to alleviate a headache in the past: take an over-the-counter medication, lay down and rest, turn off the lights, and put a cold cloth on your head.
FK-26	Unconditioned motivating operations	Unlearned stimulus condition with value- and behavior-altering effects	Not eating for several hours results in hunger, which is a motivating operation that increases value of food and food-seeking behavior.
FK-27	Conditioned motivating operations	Learned stimulus condition with value- and behavior-altering effect	Not drinking for several hours is paired with a commercial of someone enjoying a beer, resulting in beer-seeking and drinking behavior. Future beer commercials lead to beer-seeking and drinking behavior.
FK-28 a.	Transitive motivating operations	Learning history results in environmental variable that establishes/abolishes effectiveness of reinforcing another stimuli; causes/abates behavior reinforced by another stimulus	A mother comes when her child calls for her. The child is more likely to call for his mother when he has a nightmare. The nightmare doesn't make the mother's coming more likely, but makes the mother's presence more reinforcing.

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	Term	Definition	Applied Example
FK-28 b.	Reflexive motivating operations	Neutral stimulus is paired with an aversive unconditioned motivating operation and acquires the same value-altering and behavior-altering effects as the unconditioned motivating operation with which it was paired	A child is asked to clean up his room by his parents. If he doesn't clean his room within a few hours, he will be nagged about his messy room. The parents' request to clean his room is a signal warning that failure to respond will result in a worsening condition. Over time, the child learns to clean his room quickly when asked to avoid the nagging.
FK-28 c.	Surrogate motivating operations	Neutral stimulus that is paired with unconditioned motivating operation or conditioned motivating operation and acquires the same value-altering and behavior-altering effects as the unconditioned motivating operation or conditioned motivating operation with which it was paired	Seeing a fast-food restaurant when hungry can result in going into the restaurant and eating, resulting in the reinforcer of decreased hunger. This may lead to feelings of hunger when seeing a fast-food restaurant in the future, even if one has recently eaten and shouldn't necessarily feel hungry at that time.

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FK-29	Distinguish between discriminative stimulus and motivating operation	A discriminative stimulus has a behavior-altering effect because it is associated with a specific response-consequence relationship; a motivating operation has reinforcer or punisher value-altering and behavior-altering effects	<p>Telling off-color jokes in front of friends is reinforced by laughter; telling off-color jokes in front of teachers is punished by being sent to the principal's office. Friends are discriminative stimuli to tell jokes, and teachers are discriminative stimuli to not tell jokes.</p> <p>Not having seen your friends in a long time is a motivating operation for getting their attention, so telling jokes increases in an effort to get them to laugh.</p>
FK-30	Distinguish between motivating operation and reinforcement effects	Motivating operation has a behavior-altering effect (increases or decreases current frequency of behavior) and value-altering effect (increases or decreases effectiveness of reinforcer or punisher); reinforcement is a response-consequence contingency that increases the future frequency of behavior	When someone has eaten a whole bag of salty pretzels, he is motivated to seek out something to drink. Water is a reinforcer that will result in more water-seeking behavior in the future under similar motivation conditions. Salt water is not a reinforcer and will not increase seeking behavior in the future.
FK-31	Behavioral contingencies	Relationship between behavior and its controlling variables (antecedent and/or consequence)	Getting an A on a paper is only available if the paper meets certain criteria. Students are more likely to meet criteria for an A on a paper if the criteria are made available to them ahead of time.

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FK-32	Contiguity	An association between two stimuli may be formed when those stimuli are experienced within a short duration of time	Receiving a toy from Santa Claus makes Santa Claus more reinforcing over time. Hearing an unpleasant loud noise when playing with a toy makes that toy less reinforcing over time.
FK-33	Functional relations	In a well-controlled experiment, showing that manipulation of the independent variable (rather than extraneous variables) was the variable that changed the dependent variable; demonstration of cause and effect	Demonstration that increases in play behavior were due to visual schedules and no other variable.
FK-34	Conditional discriminations	Reinforcing or punishing a response to a particular antecedent stimulus if and only if it was preceded or accompanied by particular additional stimulus (verbal or non-verbal)	Choosing a picture of a dog is reinforced only when the instruction "Point to the dog," is given, and not when the instruction "Point to the cat," is given.
FK-35	Stimulus discrimination	When a response occurs at a higher frequency when a specific stimulus is present rather than absent	Stating one's name when hearing the question "What is your name?" more often than when hearing the question "How old are you?"
FK-36	Response generalization	Extent to which a learner emits untrained responses that are functionally equivalent to the trained target behavior	Someone is taught to match red and green cards, and is then able to match blue, purple, and orange cards without additional training.

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FK-37	Stimulus generalization	When a response to a certain stimulus is replicated with similar stimuli and eventually occurs in the presence of those similar stimuli as well as to the original stimulus	Someone is taught to answer the question "How are you?" and is then also able to answer the questions "How are you doing?" and "What's going on?" without additional training.
FK-38	Behavioral contrast	The phenomena in which a change in one component of a multiple schedule that increases or decreases the rate of responding on that component is accompanied by a change in the response rate in the opposite direction on the other unaltered component of the schedule	A child who is given free access to his favorite tablet apps at home will be less likely to engage in work behavior to access the same apps at school.
FK-39	Behavioral momentum	Rate of response and resistance to change after alteration in reinforcement conditions; usually implemented as a strategy that presents several instructions that are likely to be followed prior to instructions that are less likely to be followed; reinforcement for earlier instructions makes attempts to follow later instructions more likely	Asking a student to do three or four easy tasks (e.g., clean up toys, sharpen a pencil, find a book, give paper to a classmate) before asking him or her to do a harder task (e.g., complete a worksheet).
FK-40	Matching law	Rates of responding are proportionate to rate of reinforcement given by each choice alternative	Mom says "yes" to child requests about half the time. Dad says "yes" to child requests 75% of the time. Child allocates more requests to Dad than to Mom.

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FK-41	Contingency-shaped behavior	Learned behavior directly controlled by contingency of reinforcement or punishment	A child who touches a hot stove and is burned will not touch the hot stove again in the future. A child who opens a cookie jar and finds cookies will be more likely to open the cookie jar in the future.
FK-42	Rule-governed behavior	Behavior controlled by a verbal description of contingencies, allowing for indirect control by an unlikely or temporally-distant contingency	People do not need to be hit by cars to learn not to run into traffic. We learn this by learning the rules of crossing the street safely.
FK-43	Echoics	A speaker repeats a verbal behavior of another speaker; there is a point-to-point correspondence with the verbal stimuli; source of control is verbal discriminative stimulus and consequence	SD: "Apple." Echoic response: "Apple." SD: "Dog." Echoic response: "Dog."
FK-44	Mands	A specific response when the speaker asks for what he or she wants or needs; the only verbal behavior which directly benefits the speaker; source of control is unconditioned motivating operations or conditioned motivating operations and reinforcing consequence of receiving what is requested	SD: Feeling of hunger Mand response: "Can I have some pizza?" SD: Music is too loud Mand response: "Turn it down, please."
FK-45	Tacts	A speaker names things and actions; source of control is non-verbal discriminative stimulus and consequence	SD: Child sees an airplane Tact response: "Airplane." SD: Child sees a cat running Tact response: "Running."

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FK-46	Intraverbals	A speaker differentially responds to the verbal behavior of others; no point to point correspondence with the verbal stimuli; source of control is verbal discriminative stimulus and consequence	SD: "Old McDonald had a . . . " Intraverbal response: "Farm." SD: "How old are you?" Intraverbal response: "Six years old."

	Term	Definition	Applied Example
FK-47	Identify the measurable dimensions of behavior (e.g., rate, duration, latency, interresponse time).	Behavior can be measured according to dimensions of frequency and time. Frequency, or count, can be converted to rate per time period. Temporal measures include duration (length of time the behavior occurs for), latency (when the behavior occurs relative to some stimulus), and interresponse time (period of time between occurrences of responses).	Play behavior can be measured according to different dimensions. Frequency can be measured by counting the number of play responses, and rate can be derived by dividing frequency by the observation period. For example, if 6 play responses occur in 3 minutes, the rate would be 2 responses per minute. Duration can be measured by noting when play starts and stops, and calculating the time between. For example, if a child starts to play at 10:00 and stops playing at 10:12, duration is 12 minutes. Latency can be measured by noting the time between when a toy becomes available and the child starts to play with it. For example, if a toy is presented at 10:00 and the child starts to play with it at 10:02, the latency is 2 minutes. Interresponse time can be measured by recording the time between play responses. For example, if a child stops playing and then starts playing again 1 minute later, the interresponse time is 1 minute.

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FK-48	State the advantages and disadvantages of using continuous measurement procedures and discontinuous measurement procedures (e.g., partial- and whole-interval recording, momentary time sampling).	<p>Continuous recording records every instance of the target behavior. Continuous recording requires an observer to mark every target behavior. This method gives a valid depiction of the actual target behavior, however it is more demanding on the observer to measure every instance. It may also be difficult to record every instance of certain high-frequency responses, or those that do not have a clear onset and offset.</p> <p>Discontinuous measurement, also known as time sampling, does not record some instances of the target behavior. When time sampling, the observer may be able to do other things during the observation. For instance, a teacher may prefer this method so he may teach in between interval recording. Time sampling can also be useful if a teacher or observer must observe and take data on several students. However, sampling recording sometimes over- or under-estimates rates of behavior, may result in artifact data, and may not be as valid as continuous measures. If the interval is short, the observer may not be able to have other responsibilities.</p>	<p>A child is being taught to make eye contact. Continuous measure: record every instance of spontaneous and prompted eye contact. Discontinuous measures: record eye contact only during certain periods of the day, or using partial-interval (record if eye contact occurs at least once during the interval), whole-interval (record if eye contact occurs for the entire interval), or momentary time sampling (record if eye contact occurs at the end of the interval).</p>