Educational Psychology and Learning Theories in Music

Theorist	Theory	Principal Features	Links for Extended Learning
Stage and Phase Theories			
Jean Piaget	Stage-Dependent Theory	Children progress through four stages of intellectual development: sensorimotor (0-2), preoperational (2-7), concrete operations (7-11), & formal operations (11-up)	http://www.simplypsychology.org/piaget.html
Jerome Bruner	Modes of representation	Learners progress through three ways of representing meaning or understanding, related to, but not dependent on maturation: enactive, iconic, and symbolic	http://www.simplypsychology.org/bruner.html
Lawrence Kohlberg	Moral Development Stages	Based on Piaget's stages, learners progress through six phases of moral development. Development is revealed by the manner in which a learner responds to a moral dilemma. Each of the 3 phases has 2 sub-phases: Pre-conventional, conventional, post-conventional	http://www.csudh.edu/dearhabermas/kohlberg01bk.htm
Musical Play and Socialization Theories			
Lev Vygotsky	Socialization	Children are socialized through adult intervention and guidance; socialization leads to acquisition of cultural knowledge	http://jan.ucc.nau.edu/lsn/educator/edtech/learningtheorieswebsite/vygotsky.htm
Constructivist Theory			
David Jonassen	Constructivism	Children develop their understanding through the meaning they make from their experiences	http://www.personal.psu.edu/users/w/x/wxh139/construct.htm
Reinforcement and Social Learning Theories			
B.F. Skinner	Reinforcement / operant conditioning	Learning can be shaped through the process of positive or negative reinforcement; appropriate behaviors are shaped through successive approximation techniques	http://www.simplypsychology.org/operant-conditioning.html

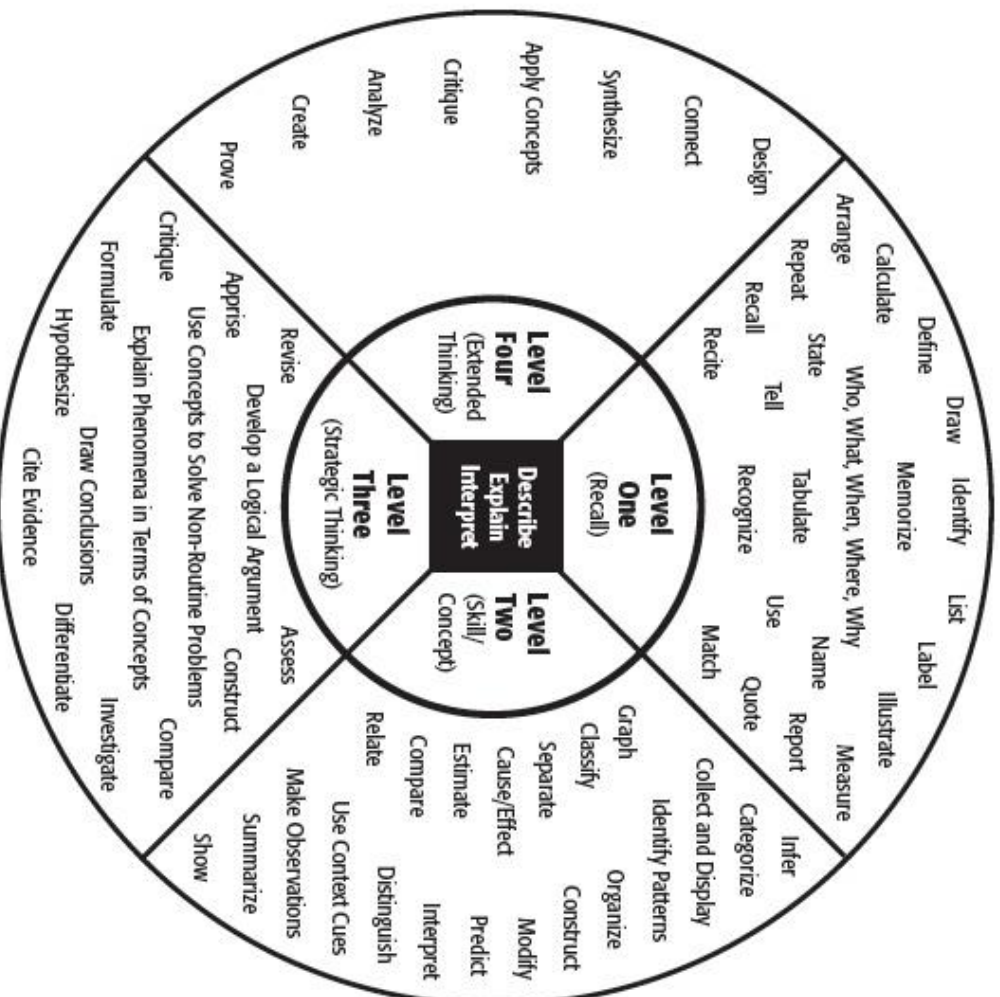|			
Albert Bandura	Social Learning	Children observe and emulate their adult models	http://www.simplypsychology.org/bandura.html
Ivan Pavlov	Classical Conditioning	Behaviors (responses) can become conditioned if paired with a related conditioned stimulus	http://muskingum.edu/~psych/psycweb/history/pavlov.htm
Learning Style Theories			
Richard Restak	Cerebral Dominance	Learners are dominated by left-hemispheric (linear) or right-hemispheric (holistic) processes	http://mybrainnotes.com/brain-consciousness-right.html
Howard Gardner	Multiple Intelligences	Learners possess one or more types of intelligences or ways of being intelligent	http://www.tecweb.org/styles/gardner.html
Walter Barbe; Raymond Swassing	Learning Modalities	Learners process information through a preferred sensory channel: visual, auditory, or kinesthetic (also attributed to Jerome Bruner)	In Music http://users.rider.edu/~vrme/v9n1/vision/Mishra%20Final.pdf
Rita Dunn and Kenneth Dunn	Learning style model	A variety of factors influence learning: environmental, emotional, social, and physical	http://www.ilsa-learning-styles.com/Learning+Styles/The+Dunn+and+Dunn+Learning+Styles+Model.html
Isabel Myers; Peter B Briggs	Myers Briggs Type Indicator (MBTI)	Learners may demonstrate one or several of sixteen Myers-Briggs types that influence the way they approach a learning task: extroversion/introversion, sensing/intuition, thinking/feeling, and judging/perceiving	http://www.myersbriggs.org/

Instructional Theories			
David Ausubel	Meaningful Reception	Students acquire information most effectively when teachers package lessons well and prepare students through advance organizers	http://www.theoryfundamentals.com/ausubel.htm
Jerome Bruner	Discovery learning; Spiral Curriculum	Students learn through exploration and problem solving; subject matter can be taught to children through age appropriate experience and can be embellished through repeated exposure // Scaffolding / Sequencing	http://www.simplypsychology.org/bruner.html
Robert Gagné	Events of Instruction	Learners progress through eight instructional events, from awareness and attention through concept formation and transfer	http://home.gwu.edu/~mcorry/corry1.htm
Edwin Gordon	Music Learning Theory	Students progress through an eight-stage process that begins with aural and oral experience with music and ends with theoretical understanding; goal is audiation	http://giml.org/
Benjamin Bloom	Taxonomy of Learning	Bloom identified levels of learning in three domains: Aeffective, Psychomotor, and Cognitive. Levels in the cognitive domain include: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation. Revised taxonomy is stated as: Remembering, Understanding, Applying, Analyzing, Evaluating, Creating	http://ww2.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm
Norman Webb	Webb's Depth of Knowledge	Revised Bloom's Taxonomy into 4 levels: Recal, Skill/Concept, Strategic Thinking, and Extended Learning	http://www.lib.uchicago.edu/projects/centcat/centcats/fac/facch08_01.html
John Dewey		Among the first to integrate education with experience, and emphasized the child over subject matter, and the learning process is more important than the product	http://www.lib.uchicago.edu/projects/centcat/centcats/fac/facch08_01.html

Table adapted from *Music in Childhood from Preschool through the Elementary Grades* (4th edition) by Patricia Shehan Campbell & Carol Scott-Kassner Cengage Learning 2012

Bloom's Taxonomy Action Verbs

Definitions	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Bloom's Definition	Remember previously learned information.	Demonstrate an understanding of the facts.	Apply knowledge to actual situations.	Break down objects or ideas into simpler parts and find evidence to support generalizations.	Compile component ideas into a new whole or propose alternative solutions.	Make and defend judgments based on internal evidence or external criteria.
Verbs	Arrange Define Describe Duplicate Identify Label List Match Memorize Name Order Outline Recognize Relate Recall Repeat Reproduce Select State	Classify Convert Defend Describe Discuss Distinguish Estimate Explain Express Extend Generalized Give example(s) Identify Indicate Infer Locate Paraphrase Predict Recognize Rewrite Review Select Summarize Translate	Apply Change Choose Compute Demonstrate Discover Dramatize Employ Illustrate Interpret Manipulate Modify Operate Practice Predict Prepare Produce Relate Schedule Show Sketch Solve Use Write	Analyze Appraise Breakdown Calculate Categorize Compare Contrast Criticize Diagram Differentiate Discriminate Distinguish Examine Experiment Identify Illustrate Infer Model Outline Point out Question Relate Select Separate Subdivide Test	Arrange Assemble Categorize Collect Combine Comply Compose Construct Create Design Develop Devise Explain Formulate Generate Plan Prepare Rearrange Reconstruct Relate Reorganize Revise Rewrite Set up Summarize Synthesize Tell Write	Appraise Argue Assess Attach Choose Compare Conclude Contrast Defend Describe Discriminate Estimate Evaluate Explain Judge Justify Interpret Relate Predict Rate Select Summarize Support Value

Depth of Knowledge (DOK) Levels

Level One (Recall)
Draw, Identify, List, Define, Calculate, Who, What, When, Where, Why, Memorize, Label, Illustrate, Arrange, State, Name, Measure, Repeat, Tell, Recognize, Use, Report, Recall, Recite, Tabulate, Quote, Categorize, Match, Collect and Display, Infer

Level Two (Skill/Concept)
Graph, Identify Patterns, Classify, Organize, Separate, Construct, Cause/Effect, Modify, Estimate, Predict, Compare, Interpret, Relate, Distinguish, Use Context Cues, Make Observations, Summarize, Show

Level Three (Strategic Thinking)
Revise, Assess, Develop a Logical Argument, Construct, Use Concepts to Solve Non-Routine Problems, Explain Phenomena in Terms of Concepts, Compare, Investigate, Differentiate, Draw Conclusions, Cite Evidence

Level Four (Extended Thinking)
Design, Connect, Synthesize, Apply Concepts, Critique, Analyze, Create, Prove, Appraise, Critique, Formulate, Hypothesize

Describe, Explain, Interpret

Level One Activities

Recall elements and details of story structure, such as sequence of events, character, plot and setting.

Conduct basic mathematical calculations.

Label locations on a map.

Represent in words or diagrams a scientific concept or relationship.

Perform routine procedures like measuring length or using punctuation marks correctly.

Describe the features of a place or people.

Level Two Activities

Identify and summarize the major events in a narrative.

Use context cues to identify the meaning of unfamiliar words.

Solve routine multiple-step problems.

Describe the cause/effect of a particular event.

Identify patterns in events or behavior.

Formulate a routine problem given data and conditions.

Organize, represent and interpret data.

Level Three Activities

Support ideas with details and examples.

Use voice appropriate to the purpose and audience.

Identify research questions and design investigations for a scientific problem.

Develop a scientific model for a complex situation.

Determine the author's purpose and describe how it affects the interpretation of a reading selection.

Apply a concept in other contexts.

Level Four Activities

Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/solutions.

Apply mathematical model to illuminate a problem or situation.

Analyze and synthesize information from multiple sources.

Describe and illustrate how common themes are found across texts from different cultures.

Design a mathematical model to inform and solve a practical or abstract situation.

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <http://www.wcer.wisc.edu/WAT/index.aspx>.