

Learning Skills Program

Bloom's Taxonomy

Benjamin Bloom created this taxonomy for categorizing level of abstraction of questions that commonly occur in educational settings. The taxonomy provides a useful structure in which to categorize test questions, since professors will characteristically ask questions within particular levels, and if you can determine the levels of questions that will appear on your exams, you will be able to study using appropriate strategies.

Competence	Skills Demonstrated
Knowledge	● observation and recall of information ● knowledge of dates, events, places ● knowledge of major ideas ● mastery of subject matter ● <i>Question Cues:</i> list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
Comprehension	● understanding information ● grasp meaning ● translate knowledge into new context ● interpret facts, compare, contrast ● order, group, infer causes ● predict consequences ● <i>Question Cues:</i> summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
Application	● use information ● use methods, concepts, theories in new situations ● solve problems using required skills or knowledge ● <i>Questions Cues:</i> apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Analysis	● seeing patterns ● organization of parts ● recognition of hidden meanings ● identification of components ● <i>Question Cues:</i> analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
Synthesis	● use old ideas to create new ones ● generalize from given facts ● relate knowledge from several areas ● predict, draw conclusions ● <i>Question Cues:</i> combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite
Evaluation	● compare and discriminate between ideas ● assess value of theories, presentations ● make choices based on reasoned argument ● verify value of evidence ● recognize subjectivity ● <i>Question Cues:</i> assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize

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In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. This became a taxonomy including three overlapping domains; the cognitive, psychomotor, and affective. Each of the domains can be utilized through the interaction of media.

Cognitive learning is demonstrated by knowledge recall and the intellectual skills: comprehending information, organizing ideas, analyzing and synthesizing data, applying knowledge, choosing among alternatives in problem-solving, and evaluating ideas or actions. This domain on the acquisition and use of knowledge is predominant in the majority of courses. Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation. Verb examples that represent intellectual activity on each level are listed here.

Knowledge:	arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state.
Comprehension:	classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate,
Application:	apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.
Analysis:	analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
Synthesis:	arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.
Evaluation:	appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.

Cognitive Domain Verbs

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Cite	Add	Acquire	Analyze	Abstract	Appraise
Count	Approximate	Adapt	Audit	Animate	Assess
Define	Articulate	Allocate	Blueprint	Arrange	Compare
Describe	Associate	Alphabetize	Breadboard	Assemble	Conclude
Draw	Characterize	Apply	Break down	Budget	Contrast
Enumerate	Clarify	Ascertain	Characterize	Categorize	Counsel
Identify	Classify	Assign	Classify	Code	Criticize
Index	Compare	Attain	Compare	Combine	Critique
Indicate	Compute	Avoid	Confirm	Compile	Defend
Label	Contrast	Back up	Contrast	Compose	Determine
List	Convert	Calculate	Correlate	Construct	Discriminate
Match	Defend	Capture	Detect	Cope	Estimate
Meet	Describe	Change	Diagnose	Correspond	Evaluate
Name	Detail	Classify	Diagram	Create	Explain
Outline	Differentiate	Complete	Differentiate	Cultivate	Grade
Point	Discuss	Compute	Discriminate	Debug	Hire
Quote	Distinguish	Construct	Dissect	Depict	Interpret
Read	Elaborate	Customize	Distinguish	Design	Judge
Recall	Estimate	Demonstrate	Document	Develop	Justify
Recite	Example	Depreciate	Ensure	Devise	Measure
Recognize	Explain	Derive	Examine	Dictate	Predict
Record	Express	Determine	Explain	Enhance	Prescribe
Repeat	Extend	Diminish	Explore	Explain	Rank
Reproduce	Extrapolate	Discover	Figure out	Facilitate	Rate
Review	Factor	Draw	File	Format	Recommend
Select	Generalize	Employ	Group	Formulate	Release
State	Give	Examine	Identify	Generalize	Select
Study	Infer	Exercise	Illustrate	Generate	Summarize
Tabulate	Interact	Explore	Infer	Handle	Support
Trace	Interpolate	Expose	Interrupt	Import	Test
Write	Interpret	Express	Inventory	Improve	Validate
	Observe	Factor	Investigate	Incorporate	Verify
	Paraphrase	Figure	Lay out	Integrate	
	Picture graphically	Graph	Manage	Interface	
	Predict	Handle	Maximize	Join	
	Review	Illustrate	Minimize	Lecture	
	Rewrite	Interconvert	Optimize	Model	
	Subtract	Investigate	Order	Modify	
	Summarize	Manipulate	Outline	Network	
	Translate	Modify	Point out	Organize	
	Visualize	Operate	Prioritize	Outline	
		Personalize	Proofread	Overhaul	
		Plot	Query	Plan	
		Practice	Relate	Portray	
		Predict	Select	Prepare	
		Prepare	Separate	Prescribe	
		Price	Size up	Produce	
		Process	Subdivide	Program	
		Produce	Summarize	Rearrange	
		Project	Train	Reconstruct	
		Protect	Transform	Refer	
		Provide		Relate	
		Relate		Reorganize	
		Round off		Revise	
		Sequence		Rewrite	
		Show		Specify	
		Simulate		Summarize	
		Sketch		Write	
		Solve			
		Subscribe			
		Tabulate			
		Transcribe			
		Translate			
		Use			

Psychomotor Domain Verbs

activate	correct	loosen	transfer
adjust	create	make	troubleshoot
align	demonstrate	manipulate	tune
apply	design	mend	turn on/off
arrange	dismantle	mix	type
assemble	drill	nail	saw
balance	fasten	operate	sharpen
break down	fix	paint	set
build	follow	press	sew
calibrate	grind	produce	sketch
change	grip	pull	start
clean	hammer	push	stir
close	heat	remove	use
combine	hook	repair	weigh
compose	identify	replace	wrap
connect	load	rotate	
construct	locate	sand	

Affective Domain Verbs

Receiving	Responding	Valuing	Organization	Internalization
ask choose follow give hold select show interest	accept respon- sibility answer assist be willing to comply conform enjoy greet help obey perform practice present report select tell	associate with assume respon- sibility believe in be convinced complete describe differentiate have faith in initiate invite join justify participate propose select share subscribe to work	adhere to alter arrange classify combine defend establish form judgments identify with integrate organize weigh alternatives	act change behavior develop code of behavior develop philosophy influence judge problems/ issues listen propose qualify question serve show mature attitude solve verify