

QUESTIONING TECHNIQUES AND TIPS FOR TUTORS 2011

Based on Bloom's and Socratic Questioning Techniques

Adapted for PBL Tutors by Carol DeMatteo 2010

GENERAL POINTS

- Any level of Bloom's can be open ended or closed questions.
- Types of questions: Factual, Convergent, Divergent, Evaluative, Combination
- OR: Factual, Conceptual, Provocative
- Response to learners: - reinforcement
 - probe
 - adjust/refocus
 - redirect
 - rephrase

BLOOMS TAXONOMY			SOCRATIC QUESTIONING	
	Useful Verbs	Sample Question Stems	Questions for:	
Level 1 <u>Knowledge</u> -recall	tell list describe relate locate write find state name	What happened after...? How many...? Who was it that...? Can you name the...? Describe what happened at...? Who spoke to...? Can you tell why...? Find the meaning of...? What is...? Which is true or false...?	1. Clarification	Why do you say that? How does this relate to our discussion? "Are you going to include diffusion in your mole balance equations?"

<p>Level 2 –</p> <p><u>Comprehension</u></p> <p>Understand</p>	<p>explain interpret outline discuss distinguish predict restate translate compare describe</p>	<p>Can you write in your own words...? Can you write a brief outline...? What do you think could of happened next...? Who do you think...? What was the main idea...? Who was the key character...? Can you distinguish between...? What differences exist between...? Can you provide an example of what you mean...? Can you provide a definition for...?</p>	<p>2. Probe assumptions</p>	<p>What could we assume instead?</p> <p>How can you verify or disapprove that assumption?</p> <p>"Why are neglecting radial diffusion and including only axial diffusion?"</p>
<p>Level 3</p> <p><u>Application</u></p> <p>- put to Use</p>	<p>solve show use illustrate construct complete examine classify</p>	<p>Do you know another instance where...? Could this have happened in...? Can you group by characteristics such as...? What factors would you change if...? Can you apply the method used to some experience of your own...? What questions would you ask of...? From the information given, can you develop a set of instructions about...? Would this information be useful if you had a ...?</p>	<p>3. Questions that probe reasons and evidence:</p>	<p>What would be an example?</p> <p>What is....analogous to?</p> <p>What do you think causes ***** to happen...? Why:?</p> <p>"Do you think that diffusion is responsible for the lower conversion?"</p>
<p>Level 4</p> <p><u>Analysis</u></p> <p>-break down</p>	<p>analyse distinguish examine compare contrast investigate categorise identify explain separate advertise</p>	<p>Which events could have happened...? I ... happened, what might the ending have been? How was this similar to...? What was the underlying theme of...? What do you see as other possible outcomes? Why did ... changes occur? Can you compare your ... with that presented in...? Can you explain what must have happened when...? How is ... similar to ...? What are some of the problems of...? Can you distinguish between...?</p>	<p>4. Questions about Viewpoints and Perspectives</p>	<p>What would be an alternative?</p> <p>What is another way to look at it?</p> <p>Would you explain why it is necessary or beneficial, and who benefits?</p> <p>Why is the best?</p> <p>What are the strengths</p>

		<p>What were some of the motives behind...?</p> <p>What was the turning point in the game?</p> <p>What was the problem with...?</p>		<p>and weaknesses of...?</p> <p>How are...and ...similar?</p> <p>What is a counterargument for...?</p> <p>"With all the bends in the pipe, from an industrial/practical standpoint, do you think diffusion will affect the conversion?"</p>
<p>Level 5</p> <p><u>Synthesis</u></p> <p>– Put together</p>	<p>create</p> <p>invent</p> <p>compose</p> <p>predict</p> <p>plan</p> <p>construct</p> <p>design</p> <p>imagine</p> <p>propose</p> <p>devise</p> <p>formulate</p>	<p>Can you design a ... to ...?</p> <p>Why not compose a song about...?</p> <p>Can you see a possible solution to...?</p> <p>If you had access to all resources how would you deal with...?</p> <p>Why don't you devise your own way to deal with...?</p> <p>What would happen if...?</p> <p>How many ways can you...?</p> <p>Can you create new and unusual uses for...?</p> <p>Can you write a new recipe for a tasty dish?</p> <p>can you develop a proposal which would...</p>	<p>5. Questions that probe implications and consequences</p>	<p>What generalizations can you make?</p> <p>What are the consequences of that assumption?</p> <p>What are you implying?</p> <p>How does...affect...?</p> <p>How does...tie in with what we learned before?</p> <p>"How would our results be affected if *****?"</p>
<p>Level 6</p> <p><u>Evaluation</u></p>	<p>judge</p> <p>select</p> <p>choose</p> <p>decide</p> <p>justify</p> <p>debate</p> <p>verify</p> <p>argue</p> <p>recommend</p>	<p>Is there a better solution to...</p> <p>Judge the value of...</p> <p>Can you defend your position about...?</p> <p>Do you think ... is a good or a bad thing?</p> <p>How would you have handled...?</p> <p>What changes to ... would you recommend?</p> <p>Do you believe?</p>	<p>6. Questions about the question</p>	<p>What was the point of this question?</p> <p>Why do you think I asked this question?</p> <p>What does...mean?</p>

– judge	assess discuss rate prioritise determine	Are you a ... person? How would you feel if...? How effective are...? What do you think about...?		How does...apply to everyday life? "Why do you think diffusion is important?"
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MORE VERBS

Knowledge

describe	identify	list	show	tell	tabulate
define	examine	label	name	retell	state quote
enumerate	match	read	record	reproduce	copy select

 *Examples:* dates, events, places, vocabulary, key ideas, parts of diagram, 5Ws


Comprehension

associate	compare	distinguish	extend	interpret	predict	differentiate
contrast	describe	discuss	estimate	group	summarize	order
cite	convert	explain	paraphrase	restate	trace	

 *Examples:* find meaning, transfer, interpret facts, infer cause & consequence, examples


Application

apply	classify	change	illustrate	solve	demonstrate
calculate	complete	solve	modify	show	experiment
relate	discover	act	administer	articulate	chart
collect	compute	construct	determine	develop	establish
prepare	produce	report	teach	transfer	use

 *Examples:* use information in new situations, solve problems


 **Analysis**

analyze	arrange	connect	divide	infer	separate
classify	compare	contrast	explain	select	order
breakdown	correlate	diagram	discriminate	focus	illustrate
infer	outline	prioritize	subdivide	points out	prioritize

 *Examples:* recognize and explain patterns and meaning, see parts and wholes

 **Synthesis**

combine	compose	generalize	modify	invent	plan	substitute
create	formulate	integrate	rearrange	design	speculate	rewrite
adapt	anticipate	collaborate	compile	devise	express	facilitate
reinforce	structure	substitute	intervene	negotiate	reorganize	validate

 *Examples:* discuss "what if" situations, create new ideas, predict and draw conclusions

 **Evaluation**

assess	compare	decide	discriminate	measure	rank	test
convince	conclude	explain	grade	judge	summarize	support
appraise	criticize	defend	persuade	justify	reframe	

Examples: make recommendations, assess value and make choices, critique ideas

