

Developing Student Critical Thinking through Higher-Order Questioning (HOQ)

Overview

Research has shown that [Higher-Order Questions](#) (HOQs) require advanced cognitive demand and help students develop [critical thinking skills](#). Higher-Order Questions (HOQs) are questions that students cannot answer with a yes or no response or by providing information quoted from a textbook. Instructors can use HOQs to help students build critical thinking skills. This guide explores ways to create higher-order questions for students using [AAC&U's Critical Thinking Rubric](#) as an integral component. These materials will help you develop a set of content-specific questions to use with your students to help them build questioning patterns that lead to thinking critically.

Suggested Practices to Consider

Explanation of Issues

Description: Students should clearly state and comprehensively describe the issue or problem by delivering all relevant information necessary for full understanding.

HOQs: What are some other examples? What would happen if? Can you explain what must have happened when? What explanation do you have for this? What do you see as other possible outcomes? How many other ideas can you generate?

Application: These questions bring awareness to students on the amount of detail they are presenting. Use these questions when students have not provided enough detail to explain the topic.

Evidence

Description: Students use information taken from the source(s) to develop a comprehensive analysis or synthesis of information by thoroughly questioning experts' viewpoints.

HOQs: How would you outline this according to? How would you structure the evidence in this into evidence for and against that? How can you defend or verify your position? What is your reasoning? What support do you have for?

Application: These questions prompt students to further [analyze the material](#). Use these questions when you want students to break down the information presented into smaller parts.

Influence of Context and Assumptions

Description: Students should analyze their assumptions to evaluate the context's relevance when presenting a position.

HOQs: What factors would you change if? How is this connected to or like that? What was some of the motives behind? What do you think could account for? What would happen if? Are there other possible solutions?

Application: These questions help students question the premise of their assumptions and should be used when students present unreasonable assumptions or have developed a false position.

Student's Position

Description: Students should acknowledge the limits of their position, synthesize others' points of view, and consider the complexity of the issue.

HOQs: Distinguish between this and that? What influence will this have on that? What inconsistencies do you detect?

Application: These questions help students synthesize the problem's viewpoints and complexities and should be used when presented issues and views are not fully examined. These also help students acknowledge their limitations.

Conclusion Related to Outcomes

Description: Students' findings and related outcomes are logical and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.

HOQs: Why did this occur? Which method is best? What changes would you make? What conclusion is a result of the observed data? What would you revise? How would you rank the importance of? Which is more important and why?

Application: Use these questions to help students further assess the issues and reorder their findings.

Additional Tips

- Select one or two questions for each learning activity. Too many questions at one time may overwhelm students.
- As students begin to process things more deeply, they will self-select questions to ask themselves. Provide students with a list of questions at the beginning of the semester as a framework of learning. Let students question each other.
- Not all questions will fit your activity. Find the best question prompts that work best for you and your students.
- Use the Five (5) Whys Method when problem-solving. This method allows you to get to the root cause by asking, "Why?" five times in different ways.

CRITICAL THINKING VALUE RUBRIC

for more information, please contact value@aacu.org



Definition

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone 4	Milestones		Benchmark 1
	3	2		
Explanation of issues	Issue/ problem to be considered critically is stated clearly and described comprehensively; delivering all relevant information necessary for full understanding	Issue/ problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/ problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/ or backgrounds unknown.	Issue/ problem to be considered critically is stated without clarification or description.
Evidence <i>Selecting and using information to investigate a point of view or conclusion</i>	Information is taken from source(s) with enough interpretation/ evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.	Information is taken from source(s) with enough interpretation/ evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning	Information is taken from source(s) with some interpretation/ evaluation, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken as mostly fact, with little questioning	Information is taken from source(s) without any interpretation/ evaluation. Viewpoints of experts are taken as fact, without question.
Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.
Student's position (perspective, thesis/hypothesis)	Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.
Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

Lesson Plan: The 5-Why Method: Writing to the Root

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Lesson: The 5-Why Method: Writing to the Root

Timeframe: 60 minutes

Target Audience: college or university students in first-year composition courses, the social sciences, humanities, or other disciplines requiring students to examine complex social issues critically

Materials needed: laptop, projector, PowerPoint presentation (Writingtotheroot.pdf), blank pieces of paper for each student

Objectives: After this lesson, students will be able to

- define the term “ideology.”
- generate ideas for a research question or a paper topic.
- analyze a complex social issue critically.

Background: This lesson is for students in a first-year composition course who have been asked to write a paper critically examining a complex social issue, such as poverty, racism, or violence. This is a pre-writing, mid-writing, and revision strategy that can help students explore their paper topics in new and critical ways. This activity gets students to examine possibilities rather than definitive answers and develop more complex arguments and structures for their papers. Students begin to see the complexities of social problems—this helps them think in a more sophisticated way about various topics. They are able to move beyond a simple argument or thesis and instead write about topics from a more critical perspective.

Introduction to Lesson [2 minutes]:

Write agenda on the board:

1. Watch video and take notes on two different prisons
2. Define *ideology*
3. Discuss how the prison videos reflect a certain *ideology*
4. Free write on personal *ideology*
5. Learn about the 5-Why process
6. Apply understanding of the 5-Why process

In this class, we will be discussing and reading about some very powerful topics relating to crime and criminals in the United States: gangs, prisons, poverty, mental illness, and drug use to name a few. For the first paper in this class, you will be developing an ideology about a complex social issue related to crimes and criminals.

Procedures [55 minutes]:

Step 1: Defining and Explaining Ideologies [8 minutes] (Slides 1-5)

Before we begin developing our ideology, we first have to understand what, exactly, ideology means. In simple terms, an ideology is the way a person thinks about the world or a belief system. We may be most familiar with political ideologies that correspond to democrat, republican, libertarian, and green parties. However, we are also influenced, affected, and surrounded by ideologies in every aspect of our lives. [Slides 1-4]

But the problem with ideologies is that often they are not critically examined. We rarely critically reflect upon why we feel or believe the way we do about various social problems or issues. We tend to accept our belief systems without stopping to analyze, evaluate, or adjust them if necessary.

We are going to watch two short clips about prisons in two very different settings. Jot down what you notice about the differences between the two settings. Be ready to share what you notice after the video. [Slide 5]

Watch “Crime and Punishment, Norwegian Style” video first (2:30)

Link: <http://www.bbc.co.uk/news/world-europe-18121914>

Then watch “Rehab vs. Prison: State Program Helping Ohio Teens” video (3:12)

Link: <http://www.youtube.com/watch?v=wso9vxzXf94>

Step 2: Applying Understanding [8 minutes]

Let us take the two videos we just watched. In groups of three, share what you noticed about the differences between the two settings. [Once students have had **two minutes** to share what they noticed, allow students the opportunity to discuss the videos as a class for **two minutes**. Remind them to focus on the differences between the two settings. Write their responses on the board.] Using the information we just discussed about differences, share with that same group of three what you think the ideologies or belief systems are about prisoners based on these two videos. [Once students have had **two minutes** to share what they think about ideology, allow students the opportunity again to discuss their ideas as a whole class for **two minutes**. Make sure to guide the discussion toward a greater understanding of how ideologies influence decisions that are made. In this case, one example is how much time outside the prisoners get reflects an ideology about what criminals “deserve.”]

We can tell a lot about what people’s ideologies are regarding justice and crime by how inmates are treated and how prisons are run.

Because critical thinking is such an important aspect of earning a college education, our first paper in this class will focus on you critically examining your personal ideologies

about an important, complex social issue related to the theme of the course: crime and criminals.

Step 3: Learning How to Use the 5-Why Method: Free Writing [10 minutes] (Slides 6-7)

One way to develop critical thinking skills is to learn how to get to the root of some of these large social problems, such as prisons and crime. Far too often we are encouraged by our society to skate along the surface of complicated issues. Today you will learn a deceptively simple technique to encourage critical thinking: The 5-Why Method. [Slide 6]

Before we get into learning and practicing the method, I want you to take 5-7 minutes to free write about a topic that you might want to write your third paper on. The topics can be anything we have talked about in class so far or something different we have not touched on yet. The only requirement is that the topic must be a large, social issue we face in the United States. I want you to begin to consider your ideology or belief system about this problem. Who is responsible for this problem? Why? Who do you think should solve or address this problem? Why? How do you think this problem should be solved? Why? What do people you know think about this problem? These are just some questions to consider in your free write. [Slide 7]

Now that you've had a chance to free write about this, I would like a few volunteers to share some ideas they came up with from their free write. As others are sharing, I want those of us who are listening to see if we can identify the ideology or belief system. [After one student finishes reading, ask the other students to share whether the ideology was clearly stated or if a belief system was revealed from the free write.]

Step 4: Learning How to Use the 5-Why Method: Practice as a Group [10 minutes]

Now that you have had a chance to free write, let's learn how to use the 5-Why Method. First, let's see what topics you all came up with. [Type the students' topics on a PowerPoint slide or write on the board.]

For the sake of learning the method, we will choose one topic to work with as a group. Because I want you to have enough time in class today to go through this process on your own, I am only going to go through two cycles of the method. This practice should be enough to show you how to use the method.

[Ask students to choose a topic from the slide or the board and change it into a WHY question. For example, if the topic is drug use, the question could be, "Why do people abuse drugs?" After the question has been formed, the students come up with five possible explanations:

1. because they are bored,
2. because they are mentally ill,

3. because they are stressed out,
4. because they are lonely,
5. because they have made bad decisions.

This first cycle of the 5-Why Method tends to uncover the ideologies people hold about these problems. After this first cycle, the group picks a response to form into a second WHY question. For example: Why are people bored? Again, after the question has been formed, the students come up with five possible explanations:

1. because they do not have many friends,
2. because they have too much time on their hands,
3. because they do not have hobbies,
4. because they are used to being entertained,
5. because they are not creative.

This process then goes on for three more rounds for a total of five cycles. The goal at the end of the process is that a more critical examination of the original question, in this case “Why do people abuse drugs?,” has taken place.]

Now that we have had a chance to see what the abridged process looks like, it is time for you to practice it on your own. This method works best when it is done with other people, so today we will work in groups of three.

Step 5: Applying Understanding of the 5-Why Method [20 minutes] (Slide 8)

In your groups, you will

1. decide on a topic. (2 minutes)
2. take 2-3 minutes to free write briefly on the topic. Why does this problem exist? Who is responsible for it? What do you know about it? What do you think about it? etc. (3 minutes)
3. formulate a WHY question and begin the 5-Why Method. (1 minute)
4. go through the entire five-cycle process to develop a more critical question than the one created in step two. (14 minutes) [Slide 8]

Closure/Evaluation [5 minutes] (Slide 9):

Now that you have had a chance to go through this process, let’s debrief. What worked? What did not? What would you change about this process? [Ask all students to contribute—this may be the only time they say something aloud in class! If practical and/or necessary, write responses on the board and address student concerns after all students have contributed—you will want to make sure that students understand that this is a process that they go through in order to develop critical thinking skills. This takes energy and can feel tedious at times, but the payoff is that they will have a deeper understanding of a complex social issue.]

Next steps: After completing the 5-Why Method, you should have developed a more critical analysis of a complex social problem than you started off with in your free write. The 5-Why Method is the starting point for developing a critical reflection of an ideology about complex issues. The 5-Why Method is also the jumping off point for you to begin the work of your third paper: a critical reflection of an ideology. [Slide 9]

Lesson Analysis:

This is a great activity for students to work on together to generate ideas for writing research papers. Because students often feel stuck at the initial stages of writing, working with others to discuss topics can help them generate their own ideas. Also, the process asks students to consider more complex ways to examine issues or problems they might be interested in writing about. The 5-Why method encourages students to get to the root causes of large, social problems; examining the root causes of problems can help students become better at critical thinking and writing.

This is a pre-writing, mid-writing, and revision strategy that can help students explore their topics in new and critical ways. This activity gets students to examine possibilities rather than definitive answers and develop more complex arguments and structures for their papers. Students begin to see the complexities of social problems—using the 5-Why method helps them think more sophisticatedly about various topics. They are able to move beyond a simple argument or thesis and instead write about topics from a more critical perspective.

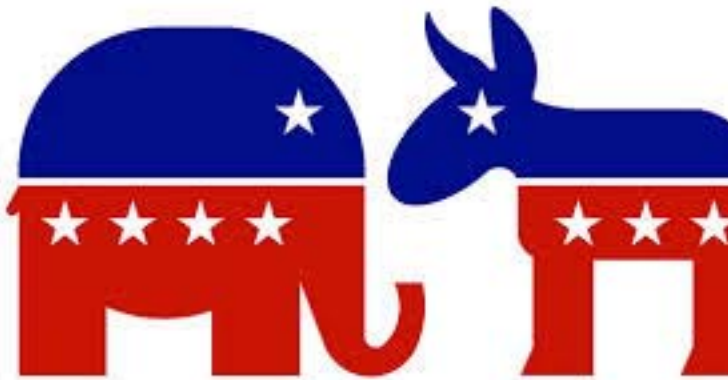
A limitation or weakness is that this process can feel tedious or repetitive. Some students might be put off by this and want to jump ahead to the end point. Therefore, it is important to remind students that this is a PROCESS and that they should trust it (at least this one time).

Another limitation is that if the student is not thinking of the original problem or topic while she or he is going through the process, it is very easy to get off topic and end up somewhere that has nothing to do with what the student was originally interested in. This can be a benefit though for some papers or assignments that ask the student to be more creative.

Getting to the Root: Examining our Ideologies

Ideology?

- The way a person thinks about the world
- A shared belief system of a large group of people (e.g., democrat, republican, libertarian, the green party)



Examples of Ideologies

- Being a strict or lenient parent is based upon a particular **ideology or belief system** of raising children.



Examples of Ideologies

- The type or kind of pets you own reflects another ideology.

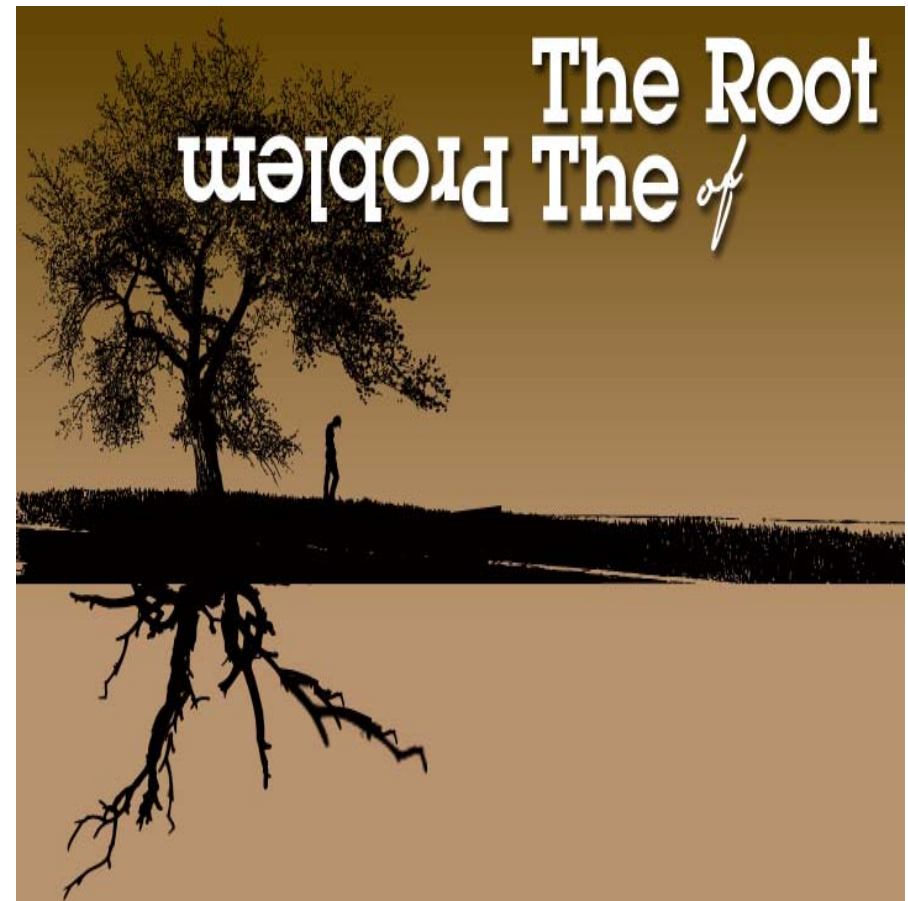


Examining Ideologies

- Examine two different perspectives/beliefs/ideologies about prison and prisoners:
 1. [Prison in Norway](#)
 2. [Juvenile Prison in the US](#)
- Jot down what you notice about the differences between the two settings.

The 5-Why Method

Getting to the root of the problem: moving from a surface explanation to a more nuanced way to look at a problem



Freewriting



- Who do you think is responsible for this problem? Why?
- Who do you think should solve or address this problem? Why?
- How do you think this problem should be solved? Why?
- What do people you know think about this problem?

Your Turn: Small Group Work

In groups of three,

- 1) decide on a topic.
- 2) take 2-3 minutes to free write on the topic: why does this problem exist, who is responsible for it, what do you know about it, what do you think about it, etc.
- 3) formulate a WHY question and begin the 5-Why Method.
- 4) go through the entire 5-Why process to develop a more critical question than the one created in step two.

Next Steps

- Now that you've gone through the 5-Why Method, you are well on your way to critically examining your ideologies about crime and criminals.
- Read through the Essay #1 prompt. Be ready to summarize the prompt (in your own words) for our next class.