

Questioning and Problem Posing

Hampton Public Schools

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Resource

- <http://www.habitsofmindinstitute.org/hampton/>
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Three Stages of UNDERSTANDING BY DESIGN

Stage 1: DESIRED RESULTS

Stage 2: EVIDENCE

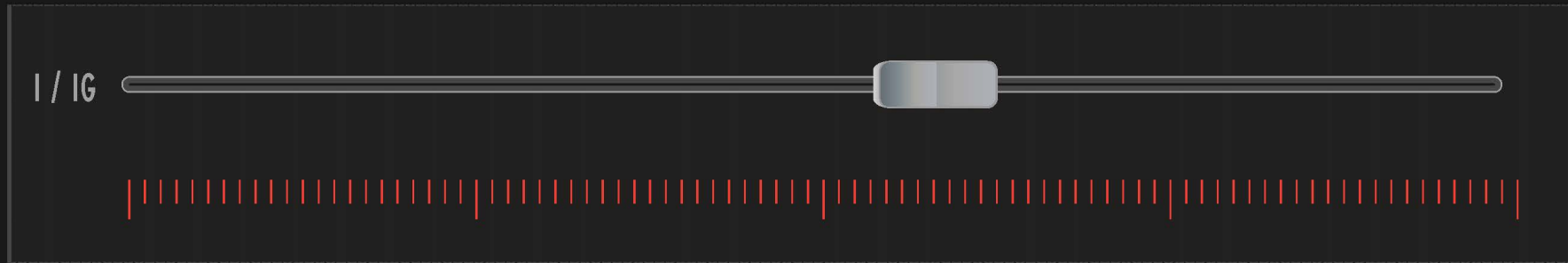
Stage 3: LEARNING PLAN

Crucial design implications

Work must require students to:

- Learn how to use content in novel situations
- Confront endless problems with no obvious answer and various plausible alternatives
- Face challenges that require figuring out which prior learning applies here
- Handling varied situations: different demands/audiences/purposes/options/constraints
- To develop Habits of Mind to manage being successful in these situations

Inquiry / Idea Generation



Teacher Generated

Teacher explains the inquiry/idea for students and students work within those confines.

Teacher & Student Co-Created

Teacher identifies a broader topic, established inquiry, or problem. Students have the opportunity to shape inquiry/idea based on investigation and/or creation.

Student Generated

Student defines and articulates the problem, idea, design, or investigation with teacher/advisor being a sounding board and possible mentor.

QUESTIONING AND POSING PROBLEMS

Having a questioning attitude.

**Developing strategies to produce
needed data. Finding problems to solve.**

How do you know?

QUESTIONING WITH INTENTION

UNPRODUCTIVE QUESTIONS:

Closed questions that can be answered "yes", "no", or "I can."

- "Can you recite the poem?"
- "Can you tell us the name of?"
- "Who can remember.....?"

QUESTIONING WITH INTENTION

UNPRODUCTIVE QUESTIONS:

Rhetorical questions in which the answer is given within the question:

- "In what year was the War of 1812?"
- "Since when has Mikhail Gorbachev had his birth mark?"
- "So how much is 3 x 4: twelve. OK?"
- "Who can name the three basic parts of a plant? Root, stems and leaves, right?"

QUESTIONING WITH INTENTION

UNPRODUCTIVE QUESTIONS:

Defensive questions that cause justification, resistance and self-protection:

- "Why didn't you complete your assignment?"
- "Why would you do a thing like that?"
- "Are you misbehaving again?"

QUESTIONING WITH INTENTION

UNPRODUCTIVE QUESTIONS:

Agreement questions the intent of which is to seek agreement with your opinion or answer

- "This is really the best solution, isn't it?"
- "Let's do it my way, O. K.?"
- "We really should get started now, shouldn't we?"

QUESTIONING TO FOSTER INQUIRY:

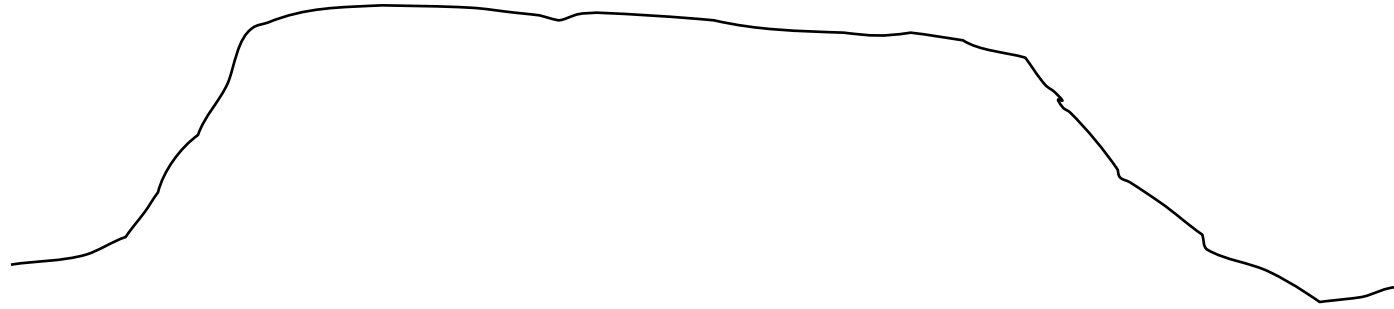
**Are invitational:
*Approachable voice, Plurals,
Tentativeness, Invitational
stems***

Positive presuppositions

Complex levels

**THINK OF A QUESTION YOU
MIGHT WANT TO ASK BASED
ON THE UNIT YOU ARE
DEVELOPING.**

A Credible Voice



An Approachable Voice



PLURALS

- "What are some of your goals?"
- "What **ideas** do you have?"
- "What **outcomes** do you seek?"
- "What **alternatives** are you considering?"


TENTATIVENESS

- “What might be some factors that would cause.....?”
- “In what other ways could you solve this problem?”
- “What hunches do you have that may explain this situation?”

INVITATIONAL STEMS:

- **“As you recall....”**
- **“As you anticipate.....”**
- **“As you envision.....”**
- **“Given what you know about.....”**

The Three Story Intellect

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There are one-story intellects, two story intellects, and three-story intellects with skylights. All fact collectors, who have no aim beyond their facts, are one-story men.

Two-story men compare, reason, generalize, using the labors of the fact collectors as well as their own.

Three-story men idealize, imagine, predict-- their best illumination comes from above, through the skylight.

Oliver Wendell Holmes

The Three Story Intellect



Complete	Identify	Observe	Input
Count	List	Recite	
Define	Match	Select	
Describe	Name	Scan	

The Three Story Intellect



Compare	Distinguish	Analyze	Process
Contrast	Explain	Synthesize	
Classify	Infer	Make analogies	
Sort	Sequence	Reason	
Complete	Identify	Observe	Input
Count	List	Recite	
Define	Match	Select	
Describe	Name	Scan	

The Three Story Intellect

Evaluate	Predict	Hypothesize	Output
Generate	Speculate	Forecast	
Imagine	If/then	Idealize	
Judge	Apply a principle		
Compare	Distinguish	Analyze	Process
Contrast	Explain	Synthesize	
Classify	Infer	Make analogies	
Sort	Sequence	Reason	
Complete	Identify	Observe	Input
Count	List	Recite	
Define	Match	Select	
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PRESUPPOSITIONS:

Hidden meanings below the surface of language.

For example:

“Even Mary could get a passing grade in that class.”



LIMITING PRESUPPOSITIONS

- ✓ "DO YOU HAVE AN OBJECTIVE?"
- ✓ "WHY WERE YOU UNSUCCESSFUL?"
- ✓ "IF ONLY YOU HAD LISTENED."



EMPOWERING PRESUPPOSITIONS

"WHAT ARE SOME OF
THE GOALS THAT YOU
HAVE IN MIND FOR
THIS MEETING?"



EMPOWERING PRESUPPOSITIONS

"AS YOU CONSIDER YOUR
ALTERNATIVES WHAT
SEEMS MOST
PROMISING?"



EMPOWERING PRESUPPOSITIONS

**"WHAT PERSONAL
LEARNINGS OR
INSIGHTS WILL YOU
CARRY FORWARD TO
FUTURE
SITUATIONS?"**

INTRODUCING QUESTIONING AND PROBLEM POSING

TEACHING STUDENTS TO
GENERATE THEIR OWN
QUESTIONS

Encouraging Students to Ask Questions

Q-Storming

1. Ask as many questions as you can.
2. Do NOT stop to Discuss, Judge, or Answer any question.
3. Write down every question exactly as it is stated.
4. Change any statement into a question.
5. Categorize the questions and set priorities—Which questions are most important to help you understand and process your project?

To develop greater depth

<https://tinyurl.com/j5xq8sp>

Thinking Routines Build Habits of Mind

- <http://www.rcsthinkfromthemiddle.com/thinking-routines.html>

Grant Wiggins on Essential Questions

- <https://tinyurl.com/jrszlr3>