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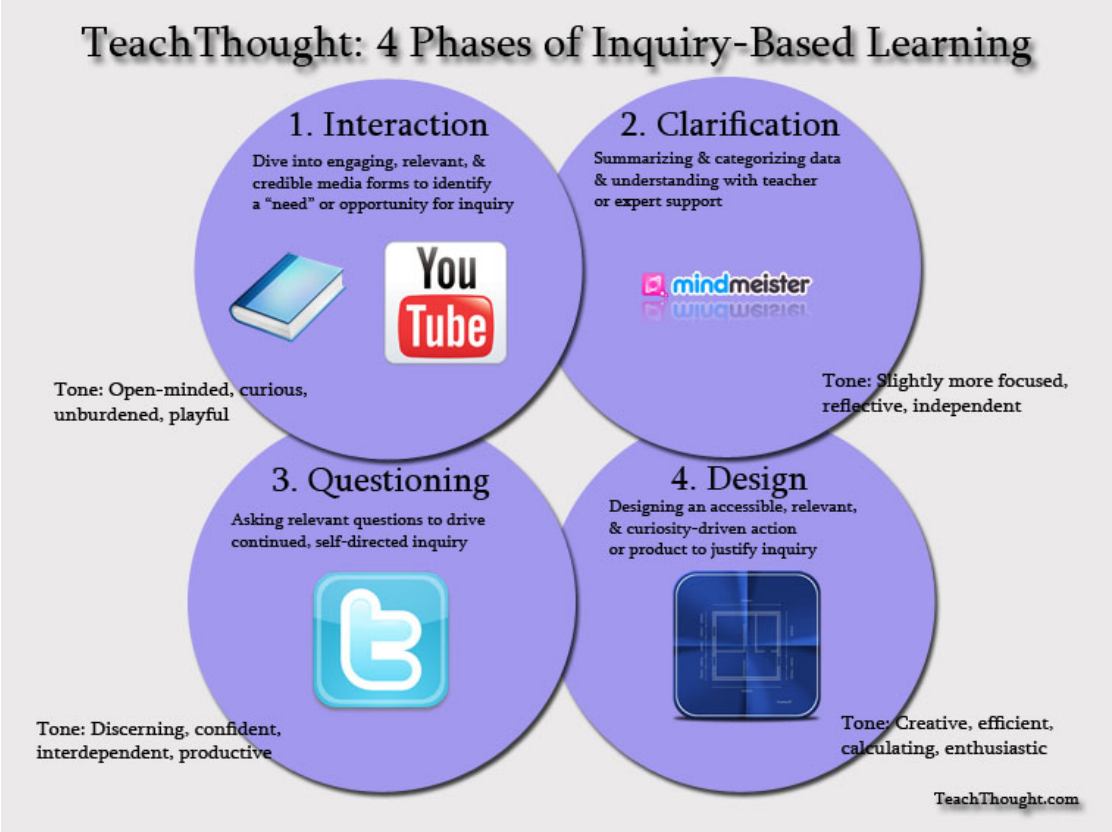
4 Phases Of Inquiry-Based Learning: A Guide For Teachers



(/wp-content/uploads/2013/10/phases-of-inquiry-based-learning.jpg)**4 Phases Of Inquiry-Based Learning: A Guide For Teachers**

by **Terry Heick**

According to Indiana University Bloomington, Inquiry-based learning is an "instructional model that centers learning on a solving a particular problem or answering a central question. There are several different inquiry-based learning models, but most have several general elements in common:

1. Learning focuses around a meaningful, ill-structured problem that demands consideration of diverse perspectives
2. Academic content-learning occurs as a natural part of the process as students work towards finding solutions
3. Learners, working collaboratively, assume an active role in the learning process

4. Teachers provide learners with learning supports and rich multiple media sources of information to assist students in successfully finding solutions
5. Learners share and defend solutions publicly in some manner"

The process itself can be broken down into stages, or phases, that help teachers frame instruction. The model we've created can be used as a guide for teachers, as it includes teacher and student indicators at each stage, ideal "tones" of each phase, and even apps that can support that phase as well.

Inquiry-based learning is an approach that can easily accommodate project-based learning, challenge-based learning, place-based education, blended learning, and other trends in education.

4 Phases of Inquiry-Based Learning: A Guide For Teachers

1. Interaction

Big Idea: Dive into engaging, relevant, and credible media forms to identify a "need" or opportunity for inquiry

The first phase of inquiry-based learning is one characterized by interaction. This interaction can be:

- Student-to-material. This material is ideally obtained through formal (i.e., research) and informal (e.g., reading, social and digital media, collaboration) means. It can be modeled or supplemented by teacher-provided materials
- Student-to-peer. This interaction is chosen by teacher or student, informed by need for information and perspective
- Student-to-expert (experts within relevant fields at accessible levels)
- Student-to-media (digital, text, pure data, etc.)

The nature of inquiry is ideally both curiosity-based and fluid. Narrow criteria, restrictive rubrics, and other traditional artifacts of "school work" can stifle inquiry at this point of the learning process. The teacher's role at this point in the learning process is focused on resources, modeling curiosity, and cognitive coaching.

Tone: Open-minded, curious, unburdened, playful

Student Indicators: actively skims a variety of media, follows curiosity, responds with awe, dwells with certain media depending on curiosity or perceived utility; seeks out peers for ideas and resources

Teacher Indicators: models curiosity, thinks-aloud when interacting with disparate media, asks probing questions, withholds evaluative statements, provides exemplars, monitors and encourages student thinking habits

Apps: FlipBoard, Pocket, Podkicker, Zotero

Appropriate Questions: What sources of information are available to me? What do others around me know? What's worth studying? What possibilities, problems, or situations tend to interest me? What types of experiences, perspectives, and data are available to me? When am I at my best?

(/wp-content/uploads/2013/07/usaghumprheys.jpg)**2. Clarification**

Big Idea: Summarizing, paraphrasing, and categorizing learning with teacher or expert support.

This happens by analyzing data, identifying and clarifying misconceptions, and otherwise "getting a feel" for the scale, nature, and possibility of selected topics of inquiry.

After skimming, reading, watching, and otherwise interacting with a variety of media, this stage of the inquiry process is centered around students clarifying both their own thinking, and the nature of "things" around them: ideas for projects, scientific challenges, opportunities for revision, need for design thinking, a new scale to tackle persistent problems, etc.

Thinking patterns are both inward and reflective, and outward and communicated. In that way, students both reflect on their own knowledge, while beginning to identify possible pathways forward.

Tone: Slightly more focused, reflective, independent, cautious

Student Indicators: Paraphrases understanding in familiar language; resists looking for "answers" and "solutions"; distinguishes between fact and opinion; evaluates the credibility and relevance of sources; focused on possibility

Teacher Indicators: offers non-evaluative and frequent feedback; provides relevant graphic organizers and other ways to "frame" student thinking; asks probing questions that focus on student thinking: what they know and why they think they know it;

Appropriate Questions: What's the big picture here? What are the pieces and how do they fit? What's accessible, and what's not? What's possible? Am I missing critical data, perspectives, or opportunities for collaboration that could further clarify my thinking? What do I seem to understand, and how do I know?

Apps: MindMeister, WordPress, Google+, Quora, reddit

3. Questioning

Big Idea: Asking questions to drive continued, self-directed inquiry

The questioning phase is a critical phase of the inquiry-based learning process, if for no other reason than misunderstandings, lack of organization, uneven confidence, or an inability to see the "big picture" surface here more clearly than other phases.

Students and teachers alike must also be able to trust the nature and patterns of inquiry that are often recursive and iterative: They often move back and forth between phases, and new skills and understandings can be obtained in frustratingly small increments. Inquiry-based learning is more about the process, tone, and instincts of learning than other "tidier" academic forms, which can require both students and teachers to adjust their measures of progress, quality, and success.

Tone: Creative, confident, interdependent

Student Indicators: Curious, precise with questions, self-monitoring, big-picture thinking, little-picture application

Teacher Indicators: models questioning, thinks-aloud in revising irrelevant or otherwise flawed questions; models use of **concept-mapping tools**(http://www.teachthought.com/technology/25-top-concept-mapping-tools-for-visual-learning/) to analyze thinking; hosts QFT sessions and Socratic seminars

Appropriate Questions: What's worth understanding? Where are my knowledge gaps? What is both within and beyond my reach? What have I done in the past that can help me in this situation moving forward?

Apps: Evernote, MindMeister, twitter, Quora, reddit

(/wp-content/uploads/2013/06/woodleywonderworksrights.jpg)**4. Design**

Big Idea: Designing an accessible, relevant, and curiosity-driven action or product to culminate and justify inquiry

At this final stage of the inquiry-based learning process, learners are focused on design.

- Design of solutions to address problems within a manageable scale
- Design of logical and curiosity-based applications of current understanding
- Design of next steps to extend their own learning pathway

Tone: Creative, restrained, calculating

Appropriate Questions: What now? What audience makes sense for this research? Where can I do "good work"? What would be "cool"? What have others before me done?

Apps: Posts, Mextures, Inkist, Google Drive, DesignPad, Foldify

Student Indicators: Clarifies thinking, busy, self-directed, uncertain but efficacious, follows curiosity

Teacher Indicators: Creates "conditions and means" for collaboration; identifies areas for revision, reflects back on entire process (i.e., "how we get to this point")

4 Student Questions For Post-Phase Reflection

After the inquiry-based learning process is "finished" (for the purposes of classroom work, publishing, grading, etc.), it can be helpful for students to reflect in the inquiry-based learning process through questions such as:

1. What skills did I depend on?
2. What do I now understand more deeply, and how do I know?
3. If I had more time or resources, what else could I have done?
4. What is the role of inquiry in learning?

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