



Stimulating and Sustaining Inquiry with Students' Questions

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It is crucial that students in the twenty-first century learn how to formulate and use questions, drive their own inquiries, and apply question formulation skills in their everyday lives. Students' ability to formulate questions can help support learning both within and outside the classroom and is foundational for promoting democratic thinking and civic engagement beyond the classroom.

Over a century ago, seminal research studies and observations on questioning in the classroom and children's questions were published in the fields of education¹ and psychology.² Since then, researchers and educators have found that asking questions helps individuals identify gaps in knowledge and target information,³ benefits reading comprehension,⁴ stimulates student curiosity and engagement,⁵ and helps children better remember information than if they received information unsolicited.⁶ Paul Harris, a cognitive developmentalist and professor of education at Harvard University, believes that although it is easy for some to overlook questioning, in part because of how tenacious young children are in seeking information via questions, the fact that no other species asks questions is evidence of its "cognitive complexity."⁷ Indeed, being able to ask questions seems inherent to cognition. Historian David Hackett Fischer writes that, "there can be no thinking without questioning—no purposeful

study of the past, nor any serious planning for the future."⁸ Hackett Fischer illuminates how questions are critical to both the study of the past and projection of the future—fundamental aspects of historians' and social scientists' work.

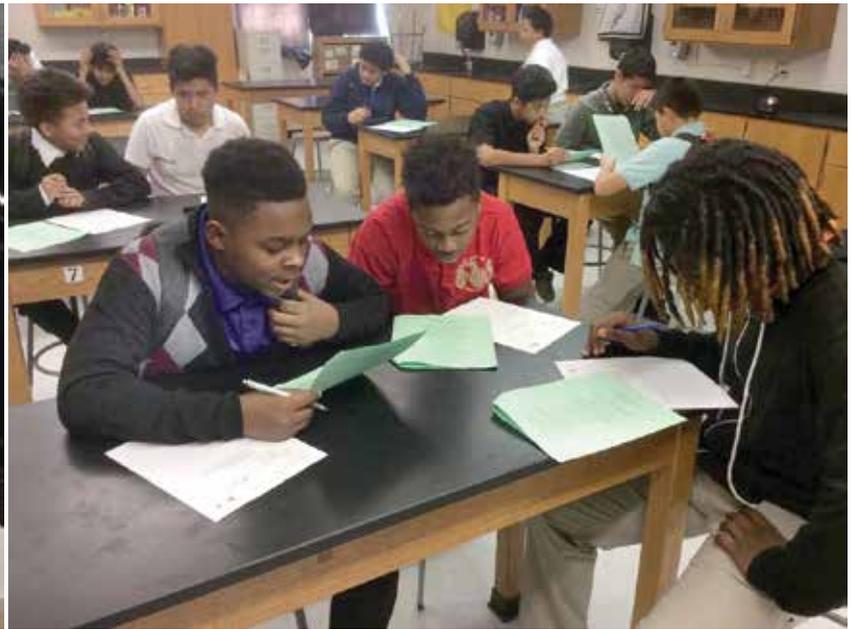
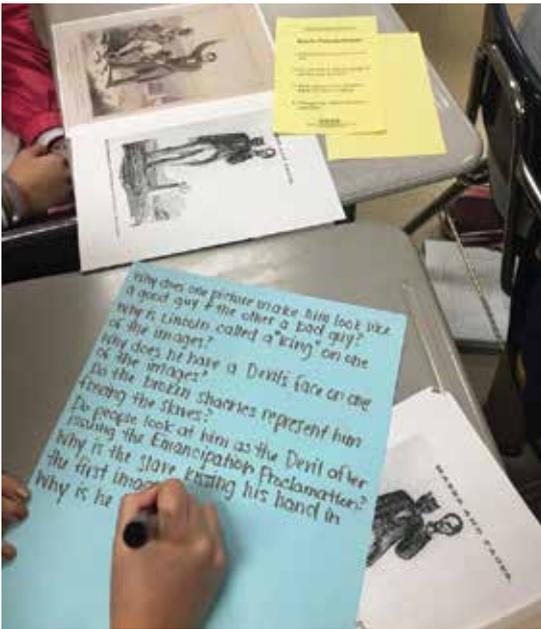
A New Emphasis on Inquiry

Recent educational standards across disciplines, including the Common Core State Standards,⁹ Next Generation Science Standards,¹⁰ and the College, Career, and Civic Life (C3) Framework for Social Studies State Standards,¹¹ have all recognized the importance of students asking questions. For students to begin to think and investigate like historians and social scientists, it is fundamental that they develop the ability to formulate questions. In 2013, Professors Kathy Swan, S.G. Grant, John Lee, and their colleagues wrote the C3 Framework as a resource to provide states with additional guidance on social studies standards.¹² The C3 Framework outlines curricular content and standards for educators to

support students as they build the skills and knowledge needed to become college, career, and civic ready. Much like professional historians and social scientists who hone their question formulation skills to learn, research, and investigate effectively and efficiently, social studies students must begin to sharpen their inquiry skills to explore the world around them. Designed on an inquiry arc, the C3 Framework has four dimensions—the first of which calls for "developing questions and planning inquiries."¹³ Just as Richard Feynman once remarked, "all learning must begin with the posing of a question,"¹⁴ and the C3 Framework emphasizes starting and sustaining learning in the classroom through inquiry.

Some Students Do Not Learn How to Ask Questions

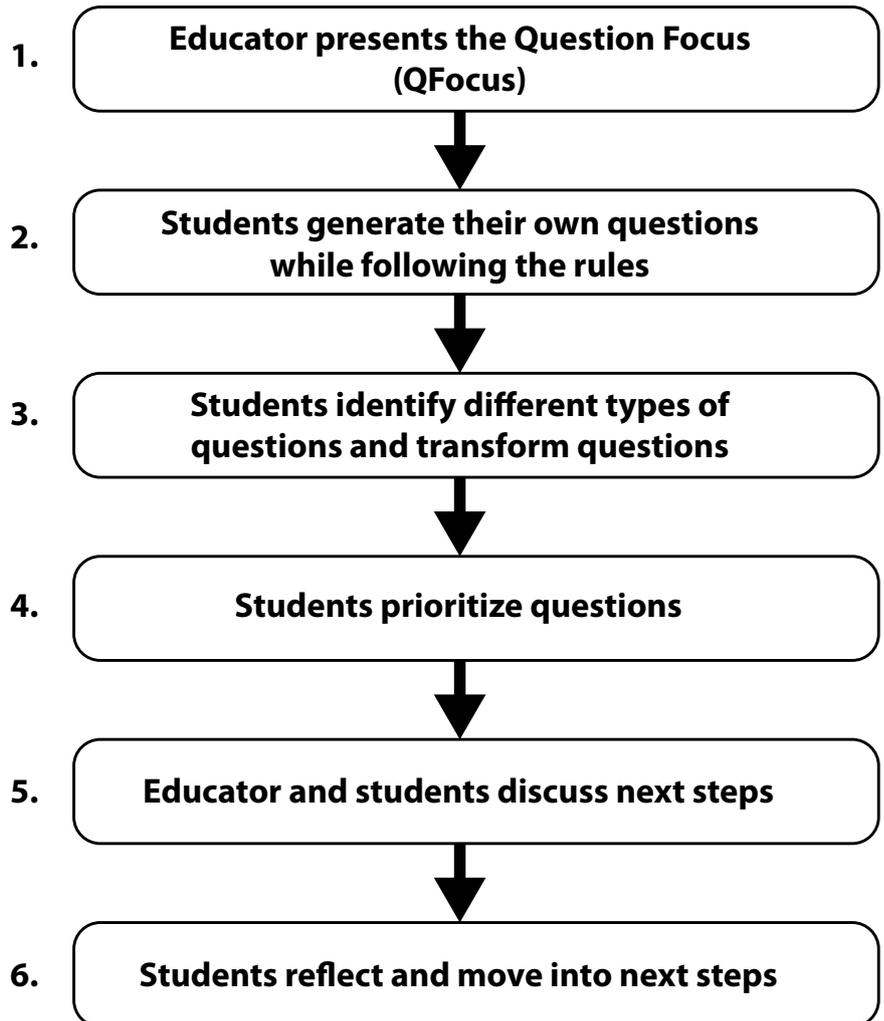
Beyond K-12 education, college presidents, deans, and administrators frequently cite the importance of questions. Nancy Cantor, who is currently chancellor of Rutgers University, assessed the evolving educational landscape in 2002 and said that "There isn't a pat answer anymore to this world, so the best we can do for students is have them ask the right questions."¹⁵ However, research has found that only 27% of college gradu-



ates report that they have developed their ability to formulate and pose questions.¹⁶ Yet young children ask an estimated 10,000 questions per year before they begin formal schooling.¹⁷ Sully dubbed age four, “the true age of inquisitiveness when question after question is fired off with wondrous rapidity and pertinacity.”¹⁸ So what happens over the course of children’s education that may help to explain the precipitous decline of question formulation?

It is possible that students enter the workforce and graduate college without honing their question formulation skills because teacher education has traditionally focused more on teacher-generated questions than student questions. One study found that teachers asked three times as many questions as they believed would be desirable for a teacher to ask, and teachers asked 50.6 questions per half hour compared to 1.8 student questions per half hour.¹⁹ K-12 educators often report that teaching students how to ask questions feels like, “pulling teeth,”²⁰ and it has been found that students ask less than 1/5th the questions educators estimated would be elicited and deemed desirable.²¹ Students ask fewer questions at school than at home²² and children from low-income families ask a lower

Steps of the Question Formulation Technique



proportion of questions at both school and home than children from moderate-income families.²³ Question-asking has been linked to student achievement as well—low-achieving secondary school students ask fewer questions than their high-achieving counterparts.²⁴ Not only are there inequities in regard to who is asking questions in the classroom, but, in general, students feel less comfortable asking questions at school as they get older.²⁵ Despite the recent shift in educational standards promoting inquiry, too few students develop their ability to formulate questions. It is clear that vulnerable subsets of students are not developing the skill of question formulation, and the students who are not learning how to ask questions are often the same students who could stand to benefit most from the democratization of this powerful skill.

The Question Formulation Technique as a Deliberate Strategy to Teach All Students to Inquire

In 2011, Dan Rothstein and Luz Santana of the Right Question Institute first wrote about the Question Formulation Technique (QFT), a simple yet rigorous stepwise process to teach all students how to ask better questions, in their book *Make Just One Change: Teach Students to Ask Their Own Questions*.²⁶ Through the QFT, students learn how to generate their own questions, improve and work with their questions, and strategize on how to use their questions as a part of a structured active-learning experience. Students develop three thinking abilities: divergent thinking, convergent thinking, and metacognition. Educators are able to design and tailor different components of the QFT to make the strategy even more effective for their students and to further enhance teaching and learning in their classroom.

The process begins with the educator providing students a Question Focus (QFocus)—a prompt for students to ask questions about. A QFocus can be anything—a statement, phrase, a visual, a primary source or historical document—

as long as it is *not a question*. Students pose questions about the QFocus while following the four rules for producing questions:

1. Ask as many questions as you can.
2. Do not stop to judge, discuss, or answer questions.
3. Write down every question exactly as stated.
4. Change any statement into a question.

After students collaboratively generate their list of questions and think divergently, they begin to work with their questions and improve them. Questions are labeled as either closed-ended (can be answered with a yes, no, or one word response) or open-ended (require more of a response than a yes, no, or one word). Students identify the advantages and disadvantages of both types of questions, and then rework their questions to change one from open-ended to closed-ended and another from closed-ended to open-ended. Next, the educator provides prioritization instructions, such as, “as a group, choose your three most important questions” or, “working independently, choose two questions from the class list that will best help to guide your research,” for students to think convergently and critically about which questions will best suit their needs and the learning objectives as the lesson advances. Finally, as a group, the educator and students discuss next steps for the lesson and the role of their questions, and the strategy ends with metacognition and students reflecting on the substance of what they learned through asking questions and how they learned it.

Since the publication of *Make Just One Change: Teach Students to Ask Their Own Questions*, over 250,000 educators have used the QFT worldwide in a variety of diverse classroom settings and communities for many different purposes.²⁷ In addition to educators driving the adoption and use of the QFT, academics and professors of higher education have also seen the value in the QFT.

During an interview for *The Atlantic* on how to educate an original thinker, Wharton Professor Adam Grant said he would, “enjoy seeing more teachers take a page out of the Right Question Institute and help students learn to formulate great questions.”²⁸ David Perkins, professor emeritus at the Harvard Graduate School of Education, summarized the QFT in saying that “The main point is this: putting learners in charge of questions.”²⁹ Notably, the co-creators of the C3 Framework have seen how the QFT “allows teachers and students to work with questions in transformative ways as it prioritizes students’ interests and provides a collaborative civic space for curiosity and wonder.”³⁰ Indeed, social studies educators in particular continue to drive adoption and innovation on the QFT. Educators have used the QFT throughout the inquiry cycle as students dig into primary sources, discuss current events, evaluate and assess the validity of sources, and move from inquiry to civic action.

Sparking Student Inquiry in the Classroom with the QFT

Des Plaines, Illinois

The QFT and students’ questions can help to frame and drive entire social studies units. Dan Fouts, a high school social studies teacher from the Chicagoland area, used the QFT with his 12th grade government class at the beginning of a unit on the American presidency during times of crisis.³¹ Students were presented the QFocus: an image of President Lincoln and Lincoln’s quotation, “Nearly all men can handle adversity; but if you really want to test a man’s character, give him power.” The class was abuzz with questions, including: “What if the person who is qualified for power doesn’t attain it? How is a man’s power tested? What is considered power? What defines good character? How can we ensure that the good men get the power?” At the end of the activity, each student selected a priority question from the entire class list that they answered through the course of the unit. Students shared what they

learned in response to their initial question in a two-page reflection paper at the close of the unit. The paper was informed by different mediums, such as a video on the personalities of different presidents of the United States and learning about and simulating presidential press conferences. Students also shared what they learned during a final classroom discussion, which Fouts describes as “rich with original thinking and student engagement, no doubt due to the fact that because students had been answering questions they had developed themselves, they were personally invested in the learning process.” Fouts’s 12th grade students, many of whom were of voting age and soon to be transitioning to careers or college, were deeply engaged with their questions on morality and power structures in society—questions relevant to all members of a democracy.

Austin, Texas

James Brewster, a middle school history teacher at Gus Garcia Young Men’s Leadership Academy, a Title I school in Austin, Texas, used the QFT with his students the Monday following the November 2015 attacks in Paris.³² Brewster noted how student questions, “provided a jumping off point for students to question, dialogue, engage, and research the event” and how the QFT helped to, “[create] a learning environment that was a safe place for discourse.” Questions were elicited from political cartoons which served as the QFoci. Student questions were used to drive research, guide debate about current topics regarding refugees in the United States, and create billboards on the attacks that students used to educate their peers. One of Brewster’s 8th grade students thoughtfully reflected that the QFT, “helps me by getting me to think about questions on my own. Also, it gets my mind in motion to think about the questions other people make.” Students were able to engage in civil discourse and debate with one another and to explore and share different perspectives through using the QFT.

Petaluma, California

Connie Williams, a former president of the California School Library Association, has found value in using the QFT to help students conduct research, assess the validity of sources, and think about how sourcing connects to information literacy.³³ At the midpoint of a unit on sourcing and citing, she presented students with the QFocus: “Everyone must become more information literate.” Students asked, “Does everyone need to be information literate? How does becoming information literate impact society as a whole? Why is information literacy a good thing?” Williams found that the QFT helped students, many of whom were still grappling with the reason for checking sources, dig deeper into why the validity of sources matter. Not only are students learning how to validate sources in school, but also they are learning how to use questions to more

carefully and critically examine information they are consuming.

New York, New York

In New York City, 9–12 year olds with mild to severe disabilities in a special education classroom closely examined a primary source image that depicted child laborers.³⁴ Esther Lee, found that the QFT helped her students, “focus on their own strengths and truly learn the way they are comfortable learning.” Students’ questions were used as they navigated through the unit, and students, “[made] speeches about anti-child labor, [designed] T-shirts to get other people engaged, and [protested] against child labor in the streets of New York in order to spread their messages.” Students communicated what they learned from exploring their questions with passersby and took informed action as they protested child labor. Lee appreciated how

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engaged students were in the protest as a result of jumpstarting the inquiry with their own questions.

Questions: Fundamental for Curiosity, Learning, Democratic Thinking, and Civic Action

The QFT is a resource to deliberately teach students how to ask questions and support students as they plan and drive their own inquiries, build their democratic thinking skills, become more information literate, and take informed civic action. Being able to ask and use questions is essential for developing into a curious lifelong learner and for thinking democratically. As one student at Hazard High School in Perry County, Kentucky, reflected, “The QFT was rewarding for me because it challenged me to broaden my thinking as an active participant in my learning rather than simply sitting, listening to a lecture. The ‘no judgment zone’ made me feel at ease, so I was open to more opportunities of learning.”³⁵ Through creating a structure and space for *all* individuals to build their question-asking skills, the QFT can help *all* students become active learners in the classroom and active participants in a society that honors an idea put forward by the great twentieth century educator and civil rights activist Septima Clark. She believed that individuals should be, “taught to study rather than believe, to inquire rather than to affirm.”³⁶ All individuals in a democracy can benefit from democratizing access to the foundational skill of question formulation—a skill for learning and a skill for life. 🌍

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