Cultivating Curiosity by Deliberately Teaching Students How to Ask Questions

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*In addition to acquiring content knowledge, it is important for 21st century students to know how to learn. Andrew P. Minigan, Education Project and Research Coordinator, **The Right Question Institute**, argues that one critical skill to help students become lifelong learners and innovators is that of question formulation.*

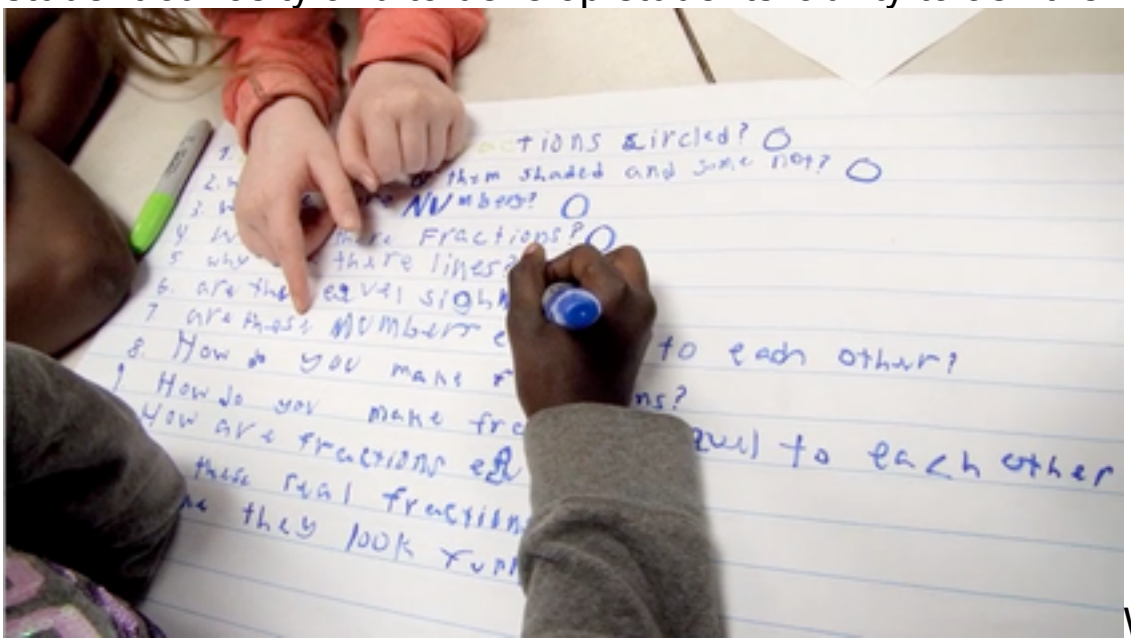
By guest blogger Andrew P. Minigan

Children are agents of curiosity and they are able to actively seek and gather information through the formulation and use of their own questions. The skill of question formulation is fundamental for learning, for working in the 21st century, and for participating in decision-making processes on all levels of a democracy. Question formulation is fundamental to cognitive development and how we learn from others, and yet it is a skill that is rarely developed in classrooms.

Students Are Not Asking Questions

In his book ***Trusting What You're Told: How Children Learn from Others***, Harvard Professor Paul Harris estimates that children might ask about 10,000 questions per year before they enter school. Yet, as soon as children enter preschool they ask fewer questions in the classroom than at home, and the rate of student question-asking declines precipitously over

the course of their education. Research has found that educators ask substantially more questions than students. There is an important role for teachers' questions in the classroom, but there is also a need to nurture student curiosity and to develop students' ability to ask their own questions.



When students do not develop the skill of question formulation they feel uncomfortable and unwilling to ask questions, which also results in some students asking more questions than others. Barbara Tizard, Martin Hughes, and their colleagues researched children's question-asking habits across socioeconomic groups and found that children from middle-class families asked a higher proportion of questions at school and at home than their low-income counterparts. Students from low-income families who hear and use less questions at home are the same students who are not asking questions and engaging in inquiry in the classroom.

The absence of students' questions spans K-12 and permeates into higher education. In fact, **Alison Head** of Project Information Literacy found that only 27 percent of college graduates believe that they have developed the skill of formulating and asking their own questions. It is evident that the

fundamental skill of question-asking is overlooked, so how can it be deliberately taught to *all*students as a part of their formal schooling?

Deliberately Teaching and Developing the Skill of Question Formulation

Teaching strategies and pedagogy that deliberately teach students how to generate, improve, and use *their own* questions can help build students' capacity to inquire. **The Question Formulation Technique**, developed by The **Right Question Institute**, helps create an equitable learning culture where *all* students can ask questions. As a part of the strategy, students do not stop to judge, discuss, or answer questions. Every question is written down exactly as it is stated. Students, including those who do not usually participate, are able to engage in collaborative question-asking knowing that their questions will not be deemed "stupid" or met with a response that, "we already know the answer." When students see *their own* questions written down as they stated them, rather than reworked or rephrased, it can have a profound impact on student learning. Students take initiative to find the answer to their questions and it can increase student engagement and ownership.

When students work with their questions, they are able to hone three sophisticated thinking abilities, which can improve student learning. First, students generate as many questions as they can, which promotes divergent thinking and unleashes student curiosity. Then, students improve and prioritize their questions, which promotes convergent thinking as students compare and contrast their questions and think critically about which questions best suit the learning objectives. Finally, students reflect on

the process and the questions they produced, which promotes metacognition and thinking about the value of asking questions.
There are many other strategies, frameworks, and resources that educators may use to help stimulate classrooms filled with questions. Bloom's Taxonomy may be a useful resource for categorizing questions. The book, ***Cultivating Curiosity in K-12 Classrooms: How to Promote and Sustain Deep Learning***, by Wendy L. Ostroff, is a rich text with resources and ideas for promoting student inquiry and student-centered learning. Project-based learning practitioners from organizations such as **TeachThought** and the **Buck Institute for Education** infuse strategies that encourage students to ask questions. Educators are now beginning to shift practice and realize that teaching students how to ask **questions can be a shortcut,** not a detour, to deeper and more meaningful learning.

The Role of Questions in the Learning Process

Question formulation is an essential skill for a time when there is an abundance of information available at your fingertips. Being able to develop good questions helps individuals target and access the information they are seeking. Dr. Stuart Firestein, Chair of the Department of Biological Sciences at Columbia University, argues that ignorance—or being aware of what you do not know—is just as valuable as knowing. In his book ***Ignorance: How it Drives Science***, Firestein says, "Questions are bigger than answers. One good question can give rise to several layers of answers..." Acquiring new information should reveal areas of ignorance, and this necessitates the ability to ask questions as a means for driving the learning process.
Questions can have a profound influence on one's ability to think originally and creatively. Dr. Adam Grant, Professor at the Wharton School of the

University of Pennsylvania, believes that students should have more opportunities to produce original pieces of work and that this may encourage educators to foster creative thinking early on in children's education. Grant attests to the **importance of teaching students how to ask questions** in order nurture creative and original thinkers.

The Role of Questions in the 21st Century Workforce

Individuals entering the workforce benefit from learning how to ask and use questions to solve problems. In his book, *A More Beautiful Question*, **Warren Berger** makes an argument that the ability to ask questions can help lead to innovation in business and the workplace. Similarly, in *The Global Achievement Gap*, Tony Wagner mentions a conversation he had with the president of the Chemical Management Division of BOC Edwards, who said, "For employees to solve problems or learn new things, they have to know what questions to ask...The ability to ask the right questions is the single most important skill." Some members of organizations, such as **Kristi Schaffner, an executive at Microsoft**, deliberately teach employees and colleagues how to ask questions, which can help spark ideas and lead to innovation. Many businesses now expect employees to be able to think nimbly and to ask questions to problem solve. Using discrete strategies to teach the skill of question formulation helps address these needs.

The Role of Questions in the Decision-Making Process and Democracy

The ability to ask questions makes it possible to participate more effectively in key decisions. When individuals learn to ask questions it helps them gain confidence in their ability to act on their own behalf, which can lead to

democratic action and participation. Being able to ask and use questions can help individuals participate in decision-making on all levels of our democracy.

The Gift of Student Curiosity

In his 2016 address to graduates, Dean James Ryan of the Harvard Graduate School of Education stated, "There is no greater gift to bestow on students than the gift of curiosity." Questions are vehicles for lifelong learning, for innovating in the workplace, and for participating in democracy. Question-asking is a fundamental skill, and strategies that deliberately teach all students how to ask questions can transform teaching, learning, and education. Through teaching inquiry, educators can cultivate classrooms filled with curious and inquisitive students—a much-needed gift for students and one that can provide joy to educators who work in a very demanding profession.

*Connect with **Andrew**, **Right Question Institute**, **Heather**, and **Center for Global Education** on Twitter.*

Photo credit: Right Question Institute. Caption: 4th grade students in Lucy Canotas' class in Manchester, NH using the Question Formulation Tech

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