

What's the Buzz? A K-5 School Uses the C3 Framework

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I (Katie) pulled up to Holden Elementary School, a one-story, brown-brick building nestled between commercial businesses and rows of small homes in Kent, Ohio. In the middle of the morning there was not a child in sight. I was buzzed into the front door by the secretary, and was about to enter the office to sign in when I noticed an enormous dry erase board with a word written at the top in bold letters, “INQUIRY.” Getting closer, I noticed the children’s handwriting—at least 100 questions of all sorts in different colors.

In the office, Principal Todd Poole thanked me for coming and offered me a seat at a big round table. “This school is committed to doing inquiry-based learning, and we want to focus on social studies this year,” he said. “We learned about science last year, and our inquiries are growing. I hear you’re the person I need to talk to about how to do inquiry in social studies.”

As an assistant professor at a local university, I was instantly intrigued because I have witnessed administrators around the state of Ohio putting social studies “on the back burner” in elementary schools in order to focus on preparing students for state reading and math tests, as is common around the country.¹ I wondered why this school was different and asked how the focus on inquiry and social studies came to be. Principal Poole pointed to the back of his door where large sheets of poster paper were hanging, words and phrases written on them with markers. He explained, “We had a series of meetings. I asked the teachers and staff what their vision was for our school. The only common theme on these sheets—between all the small groups—was inquiry-based learning.” He continued, “This was bottom up. This is what my teachers want, and they feel passionately about it. When I asked what they needed to get there, they said ‘sustained professional development in inquiry-based teaching in each subject area.’” He looked at me. “Do you have any ideas for social studies?”

I smiled because I knew that the teachers had hit on something big. Their observations of what works best with their own students aligned with much of the research on teaching and learning. Studies show that teachers who begin an activity by soliciting students’ interests and who engage the class in wondering and questioning seem to elicit more participation and learning. For example, when describing good early childhood social studies teaching, Jere Brophy, Janet

Alleman, and Anne-Lise Halvorsen organized the larger body of research into “12 Principles of Teaching.” They described one of these principles as, “Thoughtful Discourse: Questions are planned to engage students in sustained discourse structured around powerful ideas.”² Alfie Kohn built on this idea when he asked, “Whose Questions?” It is most important to elicit questions from the children themselves. “The center of gravity is in the kids; their purposes and interests are our point of departure.”³

A Professional Development Plan

Principal Poole and I agreed that I would come to the school once a month for the school year to work with the K-5 teachers and support staff.⁴ After explaining the relatively recent release of the C3 Framework, with its Inquiry Arc consisting of Four Dimensions, the principal agreed to purchase a copy of the book for each teacher.⁵

Dimensions of the C3 Framework’s Inquiry Arc

1. Developing Questions and Planning Inquiries
2. Applying Disciplinary Concepts and Tools
3. Evaluating Sources and Using Evidence
4. Communicating Conclusions and Taking Informed Action.

Over the course of the year, I met with the teachers as we explored each dimension, focusing on the creation of compelling questions, understanding each of the disciplinary pathways in depth for grades K-5, and appreciating the value of taking informed action.

Each teacher committed to creating or adapting at least one unit (Table, p. 10) that would be motivated by inquiry and to trying it out with his or her class during the 2016–2017 school year. Our narratives (below) describe the kindergarten, second, and fourth grade units in some depth.

Kindergarten: Needs and Wants

The kindergarten teacher wanted to focus on the economics concepts of needs and wants. She found a unit that inspired her lessons on the C3 Teachers website (c3teachers.org), but adapted the lessons based on the interests of her particular students.⁶ She offered them the compelling question, “Can we

Table: **Units in Grades K-5 using the C3 Framework**

Grade: Unit Title, Length	Compelling Question	Supporting Questions	Assessment	Informed Action
Kindergarten: Needs and Wants. 2 Weeks	Can we get every-thing we need and want? (Teacher-generated)	What do we need? What do we want? How do goods and services meet our needs? What happens when there isn't enough?	Analysis of work sample sorts and dialogue; Letters and posters	"Toy Drive"; Posters -Letters
Grade 1: Maps. 2 Weeks	How do we know what maps say? (Teacher-generated)	What makes a map a map? Why do we need maps? How are the features of a map identified?	Documentation of conversations; Map work samples; Rationale used to find treasures	Fire Department phone calls; Review of "Fire Exit Maps"
Grade 2: Honeybees. All Year	Why are honeybees important? (Student-generated)	Why do bees collect pollen from flowers? Are there bees around the world? What do you think is the most important item we have because of bees and why? What would happen if bees were extinct?	Science journals; "Fact vs. Fiction" papers; "How to Help" journal writing	Class book; Video of readers' theatre; Planting a garden
Grade 3: Wax Museum. 10 Weeks	Who was _____? (Student-generated)	Why is this person important? How do people change the world? What makes people memorable?	Rubrics for tri-fold board, script, and presentation	Wax museum presentation to community members
Grade 4: Homelessness. 12 Weeks	How do we know who is homeless? (Student-generated)	What is homelessness and who defines it? Why does homelessness exist? What is poverty? What events lead to homelessness? Where does homelessness happen?	Monkey Island written assessment; "Celebration of Learning" rubric; Timeline	Individual investigation presentations at "Celebration of Learning"
Grade 5: Get Out the Vote. 16 Weeks	How does geography shape the way we communicate with the world? (Student-generated)	How does distance influence communication? How do different areas communicate differently? Why do certain areas typically vote for a certain party? How do we receive information about political candidates? Are those communications truthful?	Class bulletin board	Interviews with community members

get everything we want and need?" and encouraged them to ask supporting questions including: "What do we need?" "What do we want?" "How do goods and services meet our needs?" and "What happens when there isn't enough?"

The students worked in small groups to sort images into (more vital) needs and (more optional) wants. The teacher intentionally planted some of the images to inspire debate since the difference between a want and a need is not always clear and the criteria are not static.⁷ The teacher followed up the lesson with an activity on goods and services. She posed problems to groups of students and asked them to find the service provid-

ers they needed from a group of photos in order to solve their problem. They created posters about each service provider which they shared with their peers.

The next lesson in the unit involved the concept of scarcity. The teacher began a simulation when she projected a video clip of a snow storm and told the children to pretend they were about to be stuck in their homes during a dangerous storm. They had to create a "shopping list" of needs that would help them ride out the storm in their small "family" groups. When they enacted a role play of going to the store, the teacher projected a picture of a very long line of waiting customers followed by

a photo of empty shelves. Students had to figure out what to do when goods were scarce. She then revisited the original compelling question with the class, “Can we get everything we need and want?”

She assessed the children’s understanding by documenting their dialogue during the simulations and analyzing their work samples of lists and groupings in light of concepts in English Language Arts (ELA) and social studies as described in Ohio Academic Standards.

The students were bothered by some of the conversations about how some people did not have what they needed and how many children did not have what they wanted. One student suggested that they have a “toy drive” so the unit continued. The children wrote letters that were sent home with each student in the school, and they made posters promoting the toy drive that were hung around the school. These student-created documents gave the teacher more assessment data for ELA. The teacher reported that the class donated four wardrobe-sized boxes of their own and their peers’ toys to a local shelter.

Second Grade: Creating a Buzz about Honeybees

The second author (Amy), who is a second grade teacher, shares a description of her unit in this section.

“Bees sting us. Bees make honey.” The second graders knew these facts about honeybees. They had no idea how important honeybees are to their everyday lives, but they were about to find out.

Little did I know when my husband started a beehive that it would lead to an amazing learning opportunity for my students. Establishing a hive is quite an experience, and I knew that the photos I had taken as the bees were first introduced to their manmade hive would interest the class. The students were intrigued, and many questions soon followed. Noticing that I had sparked curiosity, I quickly recorded students’ questions. We decided as a class that the most compelling question that we wanted to focus on was, “Why are honeybees important?”

What followed throughout the year was a remarkable study of everything related to honeybees and the world around us, and it started with only a photo. One student thought we should start our observations of bees in our school garden. Of course we had seen them there. Maybe some of our questions would be answered. We gathered our writing journals and pencils and off we went to the garden. Students wrote the compelling question and followed that with any supporting questions that were of interest to them. “Why do bees collect pollen from flowers? Are there bees around the world? What do you think is the most important item we have because of bees and why? What would happen if bees were extinct?” Students recorded notes and drew pictures based on their observations of bees moving among the garden plants. Master gardeners who work with the students taught them the “waggle dance,” which bees use to communicate the direction of and distance to sources

of food and water. The students “became the bees” that day, wiggling and wagging as they walked.

Back in the classroom, students found many books about honeybees, and they worked together to gather information. One of the students brought knowledge from home about the collapse of honeybee colonies. Now we were on to something. This trail of inquiry led us to maps posted online of states that have laws to protect bees, that support the study of honeybees, or that currently have notable honeybee loss. We also found charts detailing how many of our agricultural products depend on honeybees for pollination.

Each day, the students made a connection to our study of bees. They gathered information at home to print and share, they asked parents and grandparents about bees, and they talked to our school lunch monitors about the project. Everyone knew what our class was excited about. The students became experts and told what they were learning to everyone and anyone who would listen.

The other subjects were integrated into this unit. Of course there were many science concepts, but many questions and lessons were applicable to social studies, such as geography/human interactions, government/personal accountability, and economics/resources. Students read and wrote daily, and they learned about how to read maps, about how living things affect their environment and cause changes on the Earth, about what economic resources depended on bees, and how to read and interpret graphs. Most importantly, students learned that their actions can impact the world, and they have personal accountability for the choices that they make.

Students had many hands-on opportunities to learn about bees, but what better way to maintain their enthusiasm than to invite the original beekeeper from the picture to class so we could learn more? He brought a wooden frame from the active hive, and the students harvested honey from it.

With parental permission, each student was able to taste the honey that spilled out of the little wax cells nestled within the frame.

Throughout this unit, there were many opportunities for assessments, such as journal entries, written expression papers, reading comprehension activities (computer-based and pencil-on-paper activities), group work with maps, and classroom discussions and observations.

The student interest in and affection for honeybees increased. It became our mission to learn everything we could to “help these buzzers,” as one of the students put it. Students who were once afraid of honeybees had newfound respect for these creatures and wanted to protect them because “our food depends on it.” They wrote papers about helping bees and made a book to share with others. They worked in the garden to plant flowers and learned about which flowers attract bees and require them for pollination. They also performed a reader’s theater about the importance of pollinators and videotaped it to share with first graders. This was an adventure that my students and I will

never forget. It was fascinating to me that the curiosity inspired by a photograph could grow into the most memorable learning experience of the year.

Fourth Grade: Learning about Homelessness

The fourth grade class investigated the essential question, “How does where you live affect how you live?” The students seemed very interested in social status around the world and

also hung a giant world map in another hallway and posted a class photo of every student alongside it. A letter was sent home with students to inquire about family members’ origins and, using data in the responses, teachers connected each child’s photo with “a place of origin” on the world map using strings. Many students in this school are first- or second-generation Americans, so the strings radiated across the world. Another dry erase board was hung up next to the map that directed students (and families, during parent-teacher conference night) to write about what they observed and the questions that came to mind when they looked at this large graphic display.⁸



started asking questions about poverty and homelessness. The teacher grabbed a marker and started recording their questions. She reported that this was the first time during the year that she felt like the questions were emerging from the students without her prodding. The consensus for the compelling question from the entire class was, “How do we know who is homeless?” The supporting questions included, “What is homelessness and who defines it?” “Why does homelessness exist?” “What is poverty?” “What major events lead to homelessness?” and “Where does homelessness take place?”

The class read the book *Monkey Island* by Paula Fox as part of the unit and were inspired to take action. The students had a wide variety of ideas and many more questions arose during the unit. The class members decided to each investigate their own question and to come up with different action plans for how they might educate others about homelessness. The students presented their ideas to the community at an end-of-school-year “Celebration of Learning” night. The teacher used a rubric to score these final presentations while considering ELA and social studies standards.

Whole-School Engagement

I discovered that the huge dry erase board I mentioned earlier was meant to inspire students to just start asking questions. The staff wanted to create a culture of curiosity even if they would not have time to investigate each and every question. The principal

Student Engagement

Listening to the reflections of teachers at the close of the school year, I noted two similarities that seemed to cut across all of the C3 units. First, the teachers reported an unprecedented level of interest from the students. Amy reflected:

The students were beyond engaged during this unit. Each day, something would be mentioned about how they looked information up at home or they had a discussion with their family about the necessity of bees. Students also

brought in things from home—an article about the collapse of the honeybee colonies, books, pictures of honeybees. During class, students worked diligently in order to find more information in their study. They wanted to connect their work into all areas of school. During conferences, many parents spoke about their child’s excitement and knowledge about honeybees and the world.

Other teachers echoed these comments when reflecting upon their units. The kindergarten teacher said, “I even saw some of the economics language transfer to other subject areas and to their play.” In several cases, the level of engagement kept the momentum of the projects going longer than the teachers originally planned, but, these teachers were willing to continue the learning because of the weaving of disciplines which lead to content coverage in multiple content areas. This was the second similarity I noticed: the interdisciplinary benefits of these units.

Interdisciplinary Connections

Teachers were surprised at how many standards they covered for each of the four disciplines that are included in the C3 pathways: History, Economics, Geography, and Government/Citizenship. The C3 Framework and inquiry approach seemed to lead to meaningful integration of both content and concepts. Teachers also noted numerous organic connections between

standards in math, ELA, and science within the units. They had enough data from various lessons to assess standards in multiple subjects.

This deep interdisciplinary work was evidenced in the the honeybee unit. The second grade teacher could assess students' learning in science and math (through the students' science journals, which included graphs); in social studies and writing (through the "fact vs. fiction" and "how to help" papers); and in reading (in the software investigation with leveled books). Creating the class book involved students applying ELA and science content, and the readers' theatre script and performance called upon knowledge in all four subject areas.

Two Main Challenges

The teachers reported two challenges when engaging in the C3 units. The first was that these units take time! In the frenzy of a school day, it takes a bit of a shift in habit to slow down and listen to children. Brainstorming questions with children takes time; learning to research takes time; experimentation takes time; and taking action on what one has learned takes time. As a result of the teachers' experiences this year, several grades have "un-departmentalized" because they wanted more flexibility with the schedule of their students' daily routine and wanted to capitalize on the interdisciplinary nature of the units.

The second challenge revolved around students learning how to conduct research at their grade level. Finding answers to complex questions is not easy. Students struggled with how to begin research, how to find reliable sources, and how to make sense of the sources they found. Teachers struggled to find age-appropriate materials that were written at reading levels manageable for the students. Some teachers used online reading materials available through programs where reading levels are considered. These sorts of struggles, though, became the catalyst for teaching skills most central to the C3 Framework. Teachers found themselves compelled to teach students skills such as assessing reliability of sources, grappling with conflicting information, and considering multiple perspectives on issues. Even though these are complicated concepts for elementary school students, this is precisely what the C3 Framework was designed to do. Critical literacy skills and disciplinary thinking are arguably more important than the particular content of the day.

Taking Informed Action

As a result of these units, students experienced what we consider the most important part of the C3 Framework. Dimension 4 prompts the students to take informed action and thus, to develop a sense of efficacy to solve problems in the world around them. As a result of this year-long effort, these elementary students donated toys to a local shelter, encouraged voting activity through community interviews, planted a garden, created a wax museum to teach the community about important figures in history, advocated for the safety of endangered animals, and

worked with the local fire department on updating the exit routes depicted on safety maps in the school. This advocacy work began with the act of asking meaningful questions

Students engaged in meaningful learning and used that knowledge to create positive change for those around them. Teachers used the C3 Framework as a scaffold that enabled them to attempt some new inquiry-based approaches to learning. The projects were successful due (in no small part) to the risks teachers were willing to take as they tried out a new inquiry stance, to the support they received from the administration, to the sound guidance of the C3 Framework, and to the curiosity and effort of the students themselves.

To conclude with words from the C3 Framework, "Now more than ever, students need the intellectual power to recognize societal problems; ask good questions and develop robust investigations into them; consider possible solutions and consequences; separate evidence-based claims from parochial opinions; and communicate and act upon what they learn."⁸ The students at Holden Elementary School certainly showed the intellectual power to accomplish those aims, all within the walls of their own brick school building, a place where children's curiosity and interests are at the heart of the curriculum every day.

Acknowledgment

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Notes

1. Jere E. Brophy and Janet Alleman, "Early Elementary Social Studies" in *Handbook of Research in Social Studies Education*, Linda S. Levstik and Cynthia A. Tyson, ed. (New York: Routledge, 2008).
2. Jere E. Brophy, Janet Alleman, and Anne-Lise Halvorsen, *Powerful Social Studies for Elementary Students* (Boston, MA: Cengage Learning, 2018).
3. Alfie Kohn, "Who's Asking?" *Educational Leadership* 73, no. 1 (September 2015): 16–23.
4. During the 2017–2018, the teachers' professional development continues as they create more inquiry-based units. A science education professor from Kent State University, Bridget Mulvey, and I have continued to meet with the teachers this school year to support the development of the units. Holden E.S. continues to be a preservice teacher training site for Kent State as well.
5. NCSS, *Social Studies for the Next Generation: Purposes, Practices, and Implications of the College, Career, and Civic Life (C3) Framework for Social Studies Standards* (Bulletin 113, Silver Spring, MD: NCSS, 2013).
6. Lesson plan ideas were adapted from the New York State Social Studies Toolkit, www.c3teachers.org/wp-content/uploads/2015/06/NewYork_K_NeedsandWants.pdf.
7. During this professional development project, the teacher had read "Let's Teach Students to Prioritize: Reconsidering Wants and Needs," by Suzanne Gallagher and Shannon Hodges in *Social Studies and the Young Learner* 22 no. 3: (January/February 2010): 14–16.
8. C3 Framework, 33.

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