Asking Good Research Questions

To be successful in school, careers, and life, students need to know how to solve problems—and in-depth solutions to problems generally require research. Walden University’s Center of Research Quality identifies five different purposes of research:

- Basic Research—to understand how the world works
- Applied Research—to understand a problem and the nature of the problem
- Summative Evaluation—to determine if an intervention is working
- Formative Evaluation—to improve an intervention aimed at solving a problem
- Action Research—to rapidly solve an immediate problem

Most of your students’ research will fall into the “basic” or “applied” categories (Walden University, n.d.). Research products generated by students in grades 6–12 should begin with a well-formulated question.

Purpose of a Research Question

Although research questions rarely appear in final products, they provide a key preliminary step in the research process. According to Mary Kennedy of Digital Advisor—a resource for Michigan State University’s doctoral students—a good research question

- addresses an area of common interest,
- expands on current knowledge, and
- provides important new learning.

Research questions guide inquiry and argument. They help develop the idea that serves as the project’s foundation and help to clearly define the project’s boundaries. A well-written research question helps students avoid the “scope creep” that derails so many projects.

Question-Writing Expectations by Grade

Although students in all grades must learn to write clear research questions, we can use the Common Core standards to differentiate expectations for students in grades 6, 7, and 8 (Figure 1) and for students in grades 9–10 and 11–12. (Figure 2)
In high school, all students should not only have the skill to formulate a self-generated question but also possess the ability to narrow or broaden the question as needed (Ryan & Frazee, 2013b, p. 39.)

The Common Core writing standards for student researchers in middle school can help teachers determine each student’s skill level, create a rubric to determine whether a student is ready to begin their research, and develop a remediation plan to ensure future success. In a post on her blog, ¡Colorín Colorado!, Diane Staehr Fenner provides instructions for creating research questions that meet the expectations set forth in the Common Core’s Writing Anchor Standard 7, which states that students should “conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation” (2013).
When applying Fenner’s process, students use question-generation in fiction as a bridge to raise questions in nonfiction texts tied to related themes. In the example on Fenner’s blog post, middle school students reading Andy Mulligan’s novel Trash, a story about a boy who makes a living sorting through a massive dumpsite, use the fictional text as a starting point to generate research project questions about poverty, environmental issues, rights and responsibilities, and immigration.

To begin generating research questions, students can comb through questions they raised for the fiction they’ve read. In your role as teacher, help students understand that a “just right” question should be specific enough to find evidence but general enough to elicit more than a single response. Rather than bogging them down in side details, the question should help students focus on information important to the topic or themes. Some teachers will define the major themes or topics in the fiction on chart paper posted around the classroom, then have students use question stems such as “What was the significance of . . . ?” or “How did . . . develop?” to help devise questions for each topic. Students can use any of the “just right” questions they generated as a launching point for their research, which can also lead to developing a more refined or different research question.

Questions that Lead to Research

To form a clear research question, students must be able to identify the topic and scope of the proposed research. Encourage them to consider the potential scope of the project while formulating research questions. As the brainstorming process begins, help students avoid the who, what, when, and where questions, as these generally lead to short, dead-end answers. As an example, let’s use Vincent van Gogh’s painting Starry Night as a research topic. Inadequate questions for research could include the following:

- **Who** painted Starry Night?
- **What** type of painting is Starry Night?
- **When** did Vincent van Gogh paint Starry Night?
- **Where** did Vincent van Gogh paint Starry Night?
Instead, suggest that your students develop questions that “deal with big ideas, changes over time, different points of view, [and] ethical issues”—topics that inspire curiosity and intellectual and well-designed argument (Charles Evans Hughes Middle School, 2014).

Consider for example, how questions that begin with how or why can broaden the scope of potential research and engage student interest:

- **Why** did van Gogh feel compelled to paint *Starry Night*?
- **Why** was van Gogh’s relationship with Gaugin important?
- **How** did van Gogh’s absinthe consumption affect others’ perceptions of the painter, and how might you compare it to drug use today?
- **How** might creativity and mental illness be related?

### The Question Formulation Technique

In a 2014 *Education Leadership* article, Dan Rothstein and Luz Santana of The Right Question Institute set forth their research-based Question Formulation Technique, which can help you teach students how to generate questions by leveraging their natural curiosity. The technique comprises the following steps, which can typically be done in a 45-minute session:

1. The teacher designs a question focus.
2. Students produce questions.
3. Students work with open-ended and closed-ended questions.
4. Students prioritize questions.
5. Teachers and students discuss next steps for using the questions.

(Rothstein & Santana, 2014).

The technique encourages students to brainstorm questions in a group, without stopping to judge, discuss, edit, or answer questions. By learning the difference between open- and closed-ended questions (gets answers with a “yes” or “no” or with limited information) and open-ended questions (its answers need more explanation), and how to rewrite closed-ended questions to open-ended questions, students “learn how to examine questions from different angles to figure out which ones would be the best research questions” (Rothstein & Santana, 2014). In addition,
students learn how to prioritize questions, spotting connections between or subordination of questions, and then, with the teacher’s assistance, how to choose those that will best serve the research purpose.

Good, probing research questions, of course, may have who, what and when components embedded within them, but the academic goal for student-generated questions is to build their interest in, answer a deeper question about, or resolve an issue with their chosen subject or topic.

References

Bay Area Young Adult Librarians. [BAYALibrarians]. (2014, January 17). What should high school teachers teach about research? [Video file]. Retrieved from https://www.youtube.com/watch?v=s0wtuaoloVU


Fenner, D. S. (2013, June 5). Writing “just right” research questions: Strategies for ELLs [blog post]. Retrieved from ¡Colorín Colorado! at http://blog.colorincolorado.org/2013/06/05/writing-just-right-research-questions-strategies-for-ells/


