"Questions may be the most powerful technology we have ever created," said Jamie McKenzie, editor of the educational technology journal From Now On. McKenzie's new book, Beyond Technology: Questioning, Research and the Information Literate School (FNO Press, 2000), explores the effect of "data smog" and the importance of engaging students in higher-level questioning and research activities. McKenzie recently established a Web site devoted to the power of questioning, at http://questioning.org

"Questions allow us to control our lives and allow us to make sense of a confusing world," he said. "They are tools that lead to insight and understanding. If all you have is the technology, you are not an information producer, you are just a consumer."

McKenzie is concerned that while our schools focus more attention on funding information technology, few of them focus any real attention on teaching the
types of information-literacy skills that inspire meaningful learning. "In the past, so much information came to students like processed cheese," McKenzie said. "We used to do most of the thinking for the kids." McKenzie noted that many states are changing their standardized tests to require more original thought and inferential reasoning. The difference between asking topical questions and asking thought-provoking questions is, McKenzie said, "the difference between microwaving dinner and cooking spaghetti sauce from scratch."

So what kind of questions lead to better sauce? The questions come in a variety of familiar flavors.

"Which one" questions ask students to collect information and make informed decisions. Instead of asking me to "do a report on Philadelphia," ask me to decide which city in the Mid-Atlantic region is the best place to live. Instead of "Do a report on AIDS," ask me which serious disease most deserves research funding.

"How" questions ask students to understand problems, to weigh options, perhaps from various points of view, and propose solutions. Instead of asking me to do a report on pollution, ask me to propose a solution to an environmental problem in my neighborhood. Ask me how I would invest a windfall of money.

"What if," or hypothetical, questions ask students to use the knowledge they have to pose a hypothesis and consider options. Ask me "What if the Declaration of Independence abolished slavery?" or "What if the Germans hadn't sunk the Lusitania?"

"Should" questions ask students to make a moral or practical decision based on evidence. Ask me "Should we clone humans?" or "Should we discontinue trade with China?"

"Why" questions ask students to understand cause and effect. "Why" helps us understand relationships; it helps us get to the essence of an issue. Ask me: "Why do people abuse children?" "Why is the mortality rate higher in one-third World country than another?"

Instead of simply asking better questions, encourage me to design my own questions. Teach me how to look for patterns in information. Teach me how to take notes with a purpose, how to organize my ideas as I take notes. Ask me to defend my choice in the form of a presentation. Students unfamiliar with exploring big questions will need practice and guidance. They will need assurance that there may be many right answers. They need to understand that, in order to answer the big questions, they need to identify and address the smaller, subsidiary questions. That question about which city is the best place to live could not be answered without asking, "What does best mean?" The criteria might include weather, number of hospitals, major-league sport teams, or access to Gap stores. Then the question arises: How can I locate information about the criteria I have selected? My search for information should lead me to a wide variety of sources - census data, weather sites, business home pages,
chambers of commerce. I will need to ask myself: Which three cities in this region do I think would be good candidates to explore and compare?

Instead of merely collecting printouts about those three cities, it makes sense to guide this kind of research with a scaffold, or organizer. A scaffold for this project might take the form of a grid with the names of three cities across the top and the criteria for selecting listed down the side. Students would use the boxes to collect and compare evidence. And, if teachers use the scaffold for assessment, they can offer students guidance as projects unfold, and thereby avoid a disaster in the final product that might otherwise be revealed too late.

After students finish data collection, they should be able to examine their columns and make a decision about which city they should further explore. And then - yet another question - how do I best communicate my choice to the class?

Holly Perry is the principal at Academy for Middle Years (AMY Northwest), an alternative middle school in Philadelphia serving students in grades six through eight, where the curriculum emphasizes inquiry. Perry and the faculty of AMY Northwest joined the Coalition of Essential Schools in 1988 after questioning whether the school was living up to its dreams. The coalition's schools share a philosophy of 10 common principles, at http://www.essentialschools.org/aboutus/phil/10cps.html, inspired by the research of Ted Sizer, chairman of Brown University's education department and director of the coalition. Instruction in the coalition's schools is based on inquiry, on students' asking and teachers' guiding the exploration of "essential questions." Perry said: "We started out with each team raising its own essential questions. Helping kids to find their own voices. We ask: 'What is it that you think? What is your evidence? And what are the consequences of you holding these ideas?""

Perry and her staff avoid posing "skinny" questions. "When was the Declaration of Independence signed?" is a skinny question, Perry said. "But 'What would have happened had we not signed it? Was everyone covered equally?’ These open-ended questions, which can be argued supported by evidence, are fat questions."

Perry's students come from several elementary schools. For many, this kind of open-endedness is new. "Now they have the responsibility of posing questions and determining what makes a difference to them," Perry said. "Some are longing for us to tell them what to do. Do we tell them? No, of course not." An inquiry approach takes extra effort. Perry and librarian Janet Malloy are always looking for high-quality research materials and resources that elicit open-ended questioning. They emphasize primary sources. They require the use of note-taking tools such as graphic organizers or scaffolds.

I asked Perry how students respond to the inquiry-based approach at AMY Northwest. She said: "We hear them say, 'You make us think. You help us think. We like to think.'"
Teachers are generally kind and nurturing people. Students who plagiarize their assignments from these kind and nurturing teachers are often given a second chance when caught and encouraged to do their work over, but wouldn't it be better if we could eliminate their need to plagiarize?

Easy to Answer, Easy to Plagiarize

If a teacher assigns a paper on Maria Montessori, Monticello, or a mosquito (can you tell that I have the M volume of World Book with me here as I write?), some students would be hard pressed not to plagiarize. After all, who can do better than this:

“Monticello is the home Thomas Jefferson designed and built for himself on a hilltop just outside Charlottesville, Virginia. He started planning Monticello in 1768, and construction began in 1775. The first part was completed in 1775, but alterations and expansions continued until 1809.

In designing Monticello, Jefferson drew on his knowledge of local traditions, ancient Roman buildings, and especially the work of Andrea Palladio, an Italian architect of the

Even if a teacher requires three citations with the assignment, in reality, students are copying and pasting from one resource (such as my outstanding report on Monticello above) and then including citations from resources they have not used. In my Monticello assignment, my Works Cited might look like the one below, even though I have not even looked at two of the sources I cite.


Many assignments are structured so that students only need to gather information and share that information in some way, whether it is in the form of a report, a poster, a brochure, or a slide show. When an assignment’s expectation is for the student to use only the first two levels of Bloom’s taxonomy—knowledge and comprehension—the student is much more likely to plagiarize. In fact, many students never even get to the comprehension level of Bloom’s taxonomy, since there is no need for them to read what it is they are plagiarizing. We, as teachers, would find these types of assignments difficult. How many of you can write a better report than my example above on Monticello? Think how much more of an issue this becomes if we do not want to spend too much time on the assignment.

Assignments with a Twist

The first tip for eliminating plagiarism has not so much to do with what we teach the students but everything to do with how we structure assignments: avoid all assignments that ask students to research a topic and present information on that topic. No more reports on anything. No more posters that allow students simply to present information. No more slide shows or brochures that only share information gathered from other resources.

But then how do we get students to research? I don’t know how and don’t have time to structure assignments differently than I have in the past. Where will I get ideas? Some actual examples and a discussion of some general ideas for restructuring assignments should help clarify the requirements.

By Maryellen Hamalainen
"Having students do their work in school, under your supervision and using reliable print and online resources, means they will be less likely to go home and ‘Google’ an entire project."

Recently a teacher had her class conduct research on famous women. A typical assignment, this may sound exactly like what we agreed not to do. But this is not all the teacher required. Students had to write a persuasive essay in the form of a letter to the president of the United States indicating why the famous woman they were researching should be given an award. Wow! Just that little twist makes an enormous difference.

When a research assignment is structured so that the students must present an argument or persuade the reader, they simply cannot cut and paste their way to a final project. Students have to research the topic, in this case a famous woman, interpret the facts, demonstrate and explain why their famous woman is deserving of the award, formulate an argument to convince the president, and support their argument with facts from their research. These are the higher levels of Bloom’s taxonomy. This teacher has structured the assignment so students cannot plagiarize, which means she is making it easier for the students to succeed.

Another teacher assigned her students a poetry project. But look closely at the twist this second teacher has put on her assignment. She discussed how poems are usually published in anthologies, how anthologies are organized, and how poems are chosen for inclusion in anthologies. Students were asked to choose three poems from three different anthologies to create their own mini-anthology. They were then asked to write about why and how these poems were chosen. Even if a student were to choose three concrete poems, that student could not plagiarize from an article about concrete poems. The student would have to use higher-level thinking skills to compare poems that are similar, discard poems that contrast with the chosen theme, evaluate whether the three poems chosen truly belong together, and make sense of the selections. Then the student has to explain all of that in writing. Not even a chance for plagiarism.

When students think about their research, formulate ideas about it, and then present it, we can eliminate (or severely reduce) the amount of plagiarism in our schools. To create an assignment that makes plagiarism a remote possibility, think Bloom’s taxonomy. Ask students to compare and contrast two people, things, or places that they have researched. Have students choose one person, thing, or place after researching several (you set the amount) and defend why they have chosen that one. Create an assignment where students must speak in another voice or use another point of view. Have them create a dialogue using two points of view or voices. Assign “what if?” projects. What if a person from a period in time you are studying were living today? What if they were living today in a different place?

You get the picture. A twist is needed, something that takes the research in a different direction than what might already exist online, just waiting to be cut and pasted. And if you cannot think of a twist, ask a colleague, another media specialist, or the principal. But make sure you include the twist. You will be helping your students to succeed and guiding them to higher-level thinking.

1. Schedule time in the media center for research. Having students do their work in school, under your supervision and using reliable print and online resources, means they will be less likely to go home and “Google” an entire project. (It also means you get the benefit of the library media specialist’s extra set of hands.)

2. Use citation sheets. Have students copy and paste their citations from online resources or from Noodle Tools and print out their sheets. These blank sheets with only a citation at the top can be used for note taking. Collect these sheets as part of the assignment.

3. Have students hand in their rough drafts.

4. Make sure that the information you want the students to find is available. Do a test drive of the project ahead of time, or ask the library media specialist to test drive it with you.

5. Assign more research. The more practice students have with research skills in assignments that prevent them from plagiarizing, the more comfortable they will be with research and the less likely they will be to see a need for plagiarism.

Maryellen Hamalainen is a library media specialist at Anthony Wayne Middle School in Wayne, New Jersey.

Preventing Plagiarism with More Research

Although the structure of the assignment is the most important factor in eliminating plagiarism, here are some additional tips: