

Using Technology in the Elementary Classroom

By Marilyn Western

Getting the most out of a research assignment

Tired of wading through ‘research papers’ that are a series of sentences copied from the encyclopedia? Even primary students can create an amazing presentation of their new-found knowledge when guided step by step through the process of learning *how* to collect background knowledge. By adding the use of technology to the mix, students can expand their resources, organize their knowledge, and knock the socks off their audience!

But be warned – this is not a ‘night before it’s due’ process. The best thing you can possibly do for students is to design a series of mini-goals, complete with due dates, to guide them through each step of the research process. Of course, you must adapt these research steps to the age and abilities of your students as well as your own goals, but the process is flexible.

Students as Questioners

Set up a scenario for students to work with. Make it enticing (You’ve been selected to ride aboard the next space shuttle) or realistic (Plan a trip to Florida for Spring Break) or look in depth at things that affect your students (We’re entering tornado season).

Lower el students will benefit from classroom discussions that encourage, model, and provide probing questions on a topic (why, how, which). Older students who have previous experience will need less guidance in formulating their own questions. Record questions with Kidspiration, Inspiration, or a word processing document. Brainstorm a list of what the student already knows about the topic (or thinks s/he knows!) Record a list of what the student *doesn’t* know about the topic. What do they need to find out?

Encourage the addition of new questions as students gather their information.

Primary Example: Your parents said you can get a pet! You’d love to have an amphibian, but your sister is pushing for a mammal. You’ll have to research both possibilities so you can give your folks a list of 5 pros and cons for each. Remember, you’ll be responsible for feeding, cleaning up after, training, and loving your new pet. To help make your choice, decide on 5 questions you can use to compare these two animals.

Later El Example: Three ancient civilizations – Rome, Egypt, and Greece – each believed themselves to be the most advanced of their age. Choose 4 areas in which to compare these 3 groups of people. Based on your findings, decide which was the most advanced, and give at least 4 reasons to support your opinion.

At this point, you may want to present the project rubric, or hold a class discussion for students to give input on what they think a good project should look like. I always reserve the right to add several of my own categories to a class-made rubric (good teacher-stuff that kids wouldn’t necessarily come up with). Students should be familiar with what’s expected of them before they proceed.

Students as Gatherers

Once they have their questions, guide students in figuring out where they can go for information – usually, they’ll either come up with books and/or the Internet. But there is so much more available – experts, movies, current magazines, field trips, guest speakers. How will they collect and organize and cite their information? How do they check reliability?

Plan to spend some time teaching students how to use a directory and keyword search skills as well as how to evaluate the information they are locating. Who published it? How old is the information? Require the use of at least 3 kinds of resources – and then make sure you can provide them for students who don’t have home access to the Internet, encyclopedias, or books on their topic.

Set a time to conference with each student or team at least once during this phase of research. Students should be able to produce their research question(s), their plan for research, and a reasonable timeline for their project. This is a good way to keep tabs on their progress.

Students as Organizers

Students need to be taught organizational skills. An easy way to record, sort, and compare information is to create a chart. This makes it easy to see which questions are answered in depth, and which areas need more research.

Primary Example:

	What does it eat?	Where will it sleep/live?	What equipment will it need?	What will you do when you go away?	One of your own questions
An amphibian					
A mammal					

Later El Example:

	What kind of education was available?	What scientific discoveries were made?	One of your own questions	One of your own questions
Egypt				
Greece				
Rome				

Make sure students have a process for citing or keeping track of the materials they use. An easy way to do this is to create a word document or spreadsheet to record the necessary data. Or, if you have access to enough computers, students can use <http://www.easybib.com> to save and print their citation information in MLA format (this website is FREE!).

Evaluating

Time to stop and take inventory. Once researchers have sorted through their information and placed it in their chart, they should examine each area to make sure that they have sufficiently answered their questions. They may even find that their research has presented them with new questions which means they will return to information gathering, sorting, and adding their new information to their expanded chart. Good time to conference with students/teams as they work through this step and the next.

Synthesizing

Synthesizing is the act of pulling all the little facts of your research together to create a new idea. Look back at your original question – are you still on the right track? Do you have enough info on which to base your conclusions? What conclusions can you make from the data you have collected? How did you reach those conclusions? Have students submit a paragraph with their ‘answer’ to the research question, and be prepared to back it up with their research.

Reporting

Reporting your research can take many forms, but the final presentation should include the original question (and any others that have popped up), the team’s conclusions, supporting data and graphics, and a bibliography. Again, setting deadlines to turn in their 1st draft, revision, and final report will help keep students on target and give you a good idea of what successes and/or problems students are having.

More Resources

Research Modules from Grand Prairie, Texas <http://www.gpsid.org/gpsid/modules/modulepage.html>

The I-Search Unit

<http://www.edc.org/FSC/MIH/i-search.html>

Web Resource Guide from ClassZone

<http://www.classzone.com/index.cfm>

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