Evaluating Technology Resources: A Guide

The National Educational Technology Standards for Teachers (NETS-T) and the corresponding ones for students (NETS-S), discussed in Chapter 1 of *Science Stories*, offer guidelines for what both you and your students should be able to do with technology. You can read all of the standards and their supporting materials at [http://www.iste.org/](http://www.iste.org/).

This section focuses on a common chore that teachers face: how to evaluate the huge number of technology resources and select the ones most appropriate for classroom use.

**Evaluating Information from the Web**

The ability to evaluate the information that you and your students discover on the Internet is critical. You can find material on the World Wide Web that you cannot find in any other medium—partly because practically anyone can post content on the Web. The upside of this situation is the remarkable access we now have to original and creative data. The downside is that there is no gatekeeping for the material that makes its way onto this infinite communication network.

The following points can help as a general guide in evaluating web sites:

1. If you find a web page that has information you want to use, learn who the author or organization is.

2. If the author or organization is not one you already know and trust, enter the name in a search engine and see what you find. If nothing shows up, watch out! That often means the source is not reliable.
3. Check out the hypertext links on a web page. These links should point to other, external sites for your exploration. If all the links point back to internal pages, you may have unreliable data.

4. Communicate with the author of the web site by email if you cannot verify the source’s information. Reliable web page authors will respond and give you additional information. If the authors do not respond, that could be a sign that the information is suspect.

**Evaluating Software for Science Instruction**

Many different types of instructional software have science applications. But how will you know whether the software package will lend itself to inquiry-based activities that help students explore creatively and develop a depth of understanding? Here are some questions to ask:

- Does the software engage the students in a problem-solving activity?
- Does it guide students to think about one or more new science ideas?
- Are there opportunities for the student to personalize the experience presented by the software?
- Does the software portray gender or ethnic stereotypes?
- Is the language engaging and at the students’ learning level?
- Are the instructions clear?
- Are the graphics and design clear and uncluttered?
- Is there a high degree of student involvement as a result of using this software application?
- Does the program encourage further learning when it is over?

Grabe and Grabe (2007) recommend looking up reviews of commercial software products in magazines for educators. For science software, the *Journal of Computers in Mathematics and Science Teaching* and *Computers in the Schools* carry software reviews. The
National Science Teachers Association, based in Arlington, Virginia, publishes its own software reviews, as do its science magazines, *Science and Children* and *Science Scope*. There are also web sites that review educational software. Here are just a few of them:


**Evaluating Lesson Plans on the Web**

A search on the Web can turn up dozens of lesson plans on virtually any common science topic for elementary or middle school. But not all of these plans offer good approaches. For any lesson plan or suggested student activity you find on the Web, you may want to apply the general guidelines for web site evaluation listed earlier in this section. If the source looks unreliable, be skeptical of using its ideas for students.

Beyond that, here are some specific guidelines for evaluating lesson plans:

- Does the lesson plan articulate clear learning goals for the students?
- Does it explain the science ideas behind the lesson?
- Is the plan written for a specific age or grade level?
- Does the lesson plan indicate materials and where to get them? (Note this especially for live specimens.)
- Does the lesson plan give lockstep instructions for the student to follow, or does it provide for flexibility in a constructivist learning environment?
Does the plan make connections to the students’ lived experiences?

Does the plan indicate related sources, literature, or activity books?

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