Which Web Tool to Select?

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Abstract: This presentation is intended to instruct teachers, not only how to use specific technology tools, but to examine technology integration as a thinking process, as a method. It is important how we look and think about the different technologies in order to make wise choices. This presentation will focus on several technologies such as Google Sites, Polling within Texting, and Google Forms.

Technology Thinking Process

Technology integration must be taught as a thinking process, as a method. Many times when the term technology is mentioned as it relates to teachers, schools and students there is an expectation of specific technology tools to be mastered. While mastery of technology tools is important, what is more important is the way we look and think about technology. We must instruct our teachers, not only how to use these tools, but to examine technology integration as a thinking process. What does this look like? Teacher training must be committed to modules that include characteristics of the digital generation, learning styles, brain development, media, communication and technology integration. The emphasis is on an integrated thinking process. We are robbing teachers in training of this process when we teach in isolation, whether it is technology tools, reading or math activities.

For example when buying groceries you do not isolate your thinking process, you integrate this process with all of your capabilities needed to accomplish the task. How would a prospective teacher approach this type of lesson with elementary students? He or she might be tempted to isolate their thinking by providing students with a generic exercise in product buying while covering specific standards. While covering standards is an efficient goal in this case, it is not an authentic exercise nor does it utilize the thinking processes needed to reach the digital generation. How does this same task look using the integrated thinking process? Focus on your learners. Find out what they already know and want to know about shopping. Once you know the interests and desires of your learners the planning begins. Provide a variety of options within the lesson to appeal to different types of learning styles. The integrated thinking process continues with teachers and students researching all facets related to buying groceries. This is where you really see the integrated thinking process changing from a superficial approach to an authentic one. Teachers in training need this modeled, experienced and applied to every facet of content within their courses.

Let's continue the breakdown of the integrated thinking process for this task. Below is an example of the direction this simple lesson can take when utilizing this approach.
- Money management, budgeting, comparing costs from country to country, using coupons
- Cultural food, food selections, marketing, packaging and family size
- Food ingredients, safety issues, health foods
- Location, specialty groceries, size of store
- Accessibility, plastic vs. cloth bags
- Media, news, communication, senior citizens

- Social connections, texting, online shopping, delivery, time spent shopping, transportation

By generating such a list the task becomes interesting, authentic and allows for critical thinking. Critical thinking is the art of analyzing and evaluating thinking with a view to improving it according to Richard Paul and Linda Elder in *Critical Thinking: How To Prepare Students For A Rapidly Changing World*.

The role of the teacher begins to take shape as a leader and follower by utilizing the integrated thinking approach. The task now is to guide this process. Several questions arise. What strategies and tools can be utilized for this task? A teacher might first start with a collaborative interest effort from the students. A group might work on a budget for the class or use a survey from their families on grocery shopping. This includes authentic reading, writing, math, communication, and technology skills. Another group may be interested in the marketing side of grocery shopping. Reading, research, media, communication and technology would enhance this interest. By utilizing this integrated thinking process the digital generation gains the opportunity to analyze, make decisions regarding areas of interest within a school setting and master standards authentically.

Texting

How can we harness texting? It is the language of the 21st century. Immediately I realized this is an appealing and authentic technology strategy. I began to research all the varying aspects of phone usage regarding texting and found with this new integrated thinking approach I am open to a new array of strategies. I can quickly gather student responses without having to rely on an expensive clicker system. Poll Everywhere is one of many online services available. Poll Everywhere is a simple text message voting application that works well for live audiences. People vote by sending text messages (or using Twitter) to options displayed on-screen. The poll that is embedded within the presentation or web page will update in real time. I have used this with my classes and during workshops. I utilized the free version, however the upgrade is not very expensive. You can have up to 30 replies and can erase the replies and use the same poll again. A nice design feature is the ability to view immediately student responses. Enhanced features allow the designer to assign names or to remain anonymous. The poll you create can easily be embedded into a PowerPoint or used directly from the website. Poll Everywhere also provides opportunities for open-ended questions. Students and teachers are amazed at how easy it is to utilize their phones for an educational purpose that students enjoy. Students sometimes cannot believe you are actually asking them to use their phones in class. You can check out Poll Everywhere at the following website: http://www.polleverywhere.com/

Google Sites

Web design has become an extremely lucrative profession. Professional coders now make sites such as Facebook, Digg, and Google. But what about small sites simply used to convey information? Developers can still be found (and are often needed) for such sites. But sometimes it is possible to instead use a Content Management System (CMS). This is a system which automates the design of website and allows changes to be easily made by a layperson. Google offers a CMS called Google Sites. While it does not have the power or flexibility of a human developer, it has several advantages that quickly become evident to teachers and educators. Four that I would like to discuss are:
- WYSIWYG
- Instant publishing
- Collaboration
- Intranet Sites

WYSIWYG
WYSIWYG stands for What You See Is What You Get. This means that you never have to write a line of code to design your site. You create what you want to see, and that is what you get. Many programs and utilities have claimed this title, however in Sites it is more accurate than almost anything else I have ever seen. The design interface is similar to an office suite in that it allows for templates, changes in font and size, insertion of pictures and more. It is similar to most other design and word processing programs that most computer users will be familiar

with. This makes it possible for almost any user to grasp Sites easily and quickly and have a functioning website up and running. It also makes changes quick and painless.

Instant Publishing

If you have ever worked with websites before, you will probably be familiar with the methods of changing a website. It is often not simply a matter of saving. A file must be modified, and then uploaded to the server through a FTP or SSH connection. Sites makes changes much more intuitive. You simply log in, make the change and save, as you would expect to. Because Sites lives in the cloud, all changes are already in the cloud, no uploading needed. Clicking SAVE will automatically make changes available to the entire Web.

Collaboration

Google Sites lives in the cloud, so it has advantages that other cloud based apps such as Google Docs have. This will allow you to collaborate on sites or certain portions of a site with colleagues or students. This allows information to be added directly to the site without having to go through a designated "web master" and still retain security over the site as a whole.

Intranet Sites

Occasionally information needs to be shared in house only, and sometimes this requires more than one person to maintain. The common solution in businesses and increasingly in school is an intranet. An intranet is a web site or sites that can only be accessed at a certain location or by certain people. Google Sites excels at this usage. Sites can accommodate information for a class, a department, or an entire school. Taking Sites' intranet ability combined with collaboration and instant publishing, it is one of the easiest internal information management systems available.

Google Sites allows students to utilize the Technology Thinking Process within the creation of their website. Curriculum information is infused into the website in a creative, inviting format. Interaction within the website is key. Students continually ask questions such as: Is the layout inviting? Is the site easy to navigate? Is the information well thought out and succinct? Is the font and blocking of text appropriate? Is the website current with contact information provided? Students value feedback from their peers and are always anxious to share their work. Allowing time for groups to gather and share website creations provides differing perspectives for their sites. The students begin to clarify the purpose of information on their sites and make additional changes if needed. Google Site features allow the websites to look quite dynamic in that most sites include YouTube videos, interactive online forms, attachments; slideshows and video students have created.   Students are always eager to share the websites with others outside of the class. Samples can be found at ralexand.com

Google Forms

A Google form is easy to create and place on your website. The Technology Thinking Process allows students to integrate their learning across the curriculum while making selections of tools to convey or gain information. My students discuss what kinds of information they would like to gain from parents, students and other teachers. Out of the discussion comes the recognition of different grade level expectations. The forms they place on their websites are diversified.   Some students ask for parent information such as name, address, email, allergies of child, etc. They realize once the parents fill out the form on the website it becomes available to them in a spreadsheet form in Google Docs.   Forms can include questions on curriculum issues such as literacy, science or math. Students wanting to teach in the upper grades tend to focus on a homework assignment that could be filled out online and submitted. This instantly gives the teacher documentation of the assignment in spreadsheet form. Examples of forms used by students on their websites can be seen at ralexand.com

What becomes apparent as I work with pre-service teachers is a need to focus on the integrated Technology Thinking Process. This provides a framework for students to consider learning styles, characteristics of the digital generation and curriculum standards. With those items at the forefront of their thinking then and only then will teachers begin to analyze and select the best technology tools and strategies to use in the classroom.

References
Elder, R. W., & Elder L. (2009) Critical *Thinking: How to Prepare Students For A Rapidly Changing World*, Foundation for Critical Thinking, Sonoma, CA, 1995.