Blogs

A blog is an easily created, easily updateable web site that allows an author to publish instantly to the Internet. Many blogs are personal journals of the author’s life with analysis, synthesis, and connections to concrete examples that support their claims and conclusions. Because of the wide variety of uses that teachers can use blogs for, they are critical to teaching students in a 21st century because of their ability to teach students new literacies, their ability to promote collaboration, and their ability to promote cognitive construction of concepts and personal connection. One of the greatest things about blogs is their ability to promote the expansion of the classroom into the global world, assisting students in communicating with others and expanding the classroom beyond its physical four walls. For example, in my own blog that I updated throughout the semester, I was able to directly connect my own learning experiences from the ITS program to my own classroom teaching. Although I was already doing this on a frequent basis for my ITS assignments, the blog allowed me to quickly write about and reflect on my connections, as well as seek feedback and guidance from my fellow ITSers without being within the physical classroom.

Databases

A database is a collection of related information or facts that are stored in a computer. They promote the development of process skills, such as analyzing, observing, classifying, communicating, comparing/contrasting, defining, describing, evaluating, generalizing, inferring, and interpreting. Most importantly, databases foster the development of critical thinking skills. They allow for the connection of real life situations to learning experiences. Databases also allow for the development of multiple skills simultaneously.

Digital Video Editing

Digital video editing is a nonlinear process that allows for video to be manipulated and then stored as digital computer files. Using programs such as Windows Movie Maker or Apple iMovie, users can create personalized videos that are as unique as the creator himself/herself. Digital video editing directly supports the process of DEAPR, which is the process of designing instruction for the production of final products. Through Designing, Encoding, Assembling, Publishing, and Revising in video editing, students are constantly thinking about the end goal(s) for the product as they work towards the production of the video itself. Not only does digital video editing assist in the development of nonlinear thinking, it also assists students in developing messages across multiple mediums.

Graphics

There are five types of graphic programs. They are print graphics, draw programs, paint programs, idea processors, and animation programs. Each type of graphics program, as well as file types and preexisting images, afford different products, as well as has different limitations. Each has strengths when it comes to one of the eight perspective techniques - foreshortening, shading, surface, size, contour lines, overlapping, density, and shadows. Each also has a strength when it comes to composition, which are the decisions that an artist makes when it comes to the placement of objects on a drawing surface. Computer graphics not only allow teachers to be sure that students are capable of living in a world full of images, but also allows teachers to ensure that their students are able to provide thorough meaning to the images that they utilize. The power of images, especially when incorporated with text, is nearly impossible to measure against text alone, especially because of DROET - the ability of graphics to promote visual representation through Decorating, Representing, Organizing, Explaining, and Transforming.

Hypermedia

Hypermedia is a computer based information system that provides access to information via readings, video clips, and images. It can be developed using many methods, including programming tools like Adobe and Macromedia, database tools like Visual FoxPro and Filemaker Developer, and hyperlinks created using the Microsoft Office and Adobe suites. The key characteristic of hypertext is the links that it contains to other texts, allowing for the development of non-sequential writing. Because most thinking is not linear, hypermedia allows for the representation of writing and reading processes that naturally occur in human brains. It also allows for cognitive engagement and greater concentration for longer periods of time as a result of the promotion of higher order thinking. Most importantly, hypermedia allows for learner control in an individualized lesson due to the user’s control of the pace, sequence, content, and feedback.

Podcasts

A podcast is a form of digital media that allows for producers to develop a series of downloadable files that can be listened. It is self produced online content that allows for producers to incorporate various oral text and sounds into one single audio file. Podcasts can be made using a variety of programs, not limited to Audacity, Garage Band, and UStream and others. The possibilities for purposes of Podcasts are endless--from having students develop a collection of oral histories in their Social Studies classes to having students create mini-recitals in their Music classes. Podcasting allows for students to develop products for an authentic audience, while also having the opportunity to archive their contributions for later use.

Simulations

Simulations are games that have an authentic problem. They focus on the association of content and the ideal vision for video games that James Paul Gee outlines in Good Video Games and Good Learning. Instead of focusing on the manipulation of variables and different results that can occur as a result of the manipulation of those variables, they instead focus on the development of authentic application and real life learning in a recreational environment. In other words, simulations make learning fun and promote risk-taking in a safe environment. Simulations mirror real life activities in a fictional world. They “use the power of computers to create and define the parameters of microcosms of human experience” (Gee, pg. 165). For example, in Hot Dog Stand, players practice and develop concepts of good business skills by running a hot dog stand at a local arena. They take risks and make decisions about how much food to buy and how much to sell the food for, and as a result, see how much of a profit or loss they get to enjoy.

Telecommunications

Telecommunications are communications performed at a distance. Not only are communications facilitated with others, but they also allow for locating and using people in information resources. All forms of telecommunications depend upon the use of a network, usually the Internet, in order to facilitate communication. Telecommunications allow for learning and communication to take place outside of the physical classroom. As a result of the development of telecommunications, learning does not have to be restricted to the classroom itself. Telecommunications afford ongoing academic discussions between students.

Television/Video

Teaching about television and video is just as important as teaching about any other piece of technology. Television and video carries with it just as much symbolism as any other technological tool that students are exposed to on a daily basis. A lack of teaching television and video literacy will lead to students having virtually no clue as to what is really going on in the world since they will really only have surface knowledge of the world, not a deep understanding. Students will be unable to make connections between themselves and the visual world that television and video promotes. Thus, it is imperative to teach students about encoding and decoding the visual symbols that students are exposed to, which Elliot Eisner, the author of Cognition and Curriculum, says is necessary for survival in the 21st century, especially since television is one of the prime forms of informative culture in our world.

Video Games

In Good Video Games and Good Learning, author Paul Gee argues that video games help make learning fun, and consequently lead to higher levels of learning and mastery as a result of three broad ideas: they create empowered learners, they promote the development of problem solving skills, and they assist learners with the development of a deep understanding of concepts and ideas. Although many traditionalists do not see the value in utilizing video games in the classroom, it is clear that they have the potential to situate students in contexts that may otherwise be impossible to do authentically, including fighting fires, solving crimes, and managing amusement parks.

Virtual Classrooms

Virtual classrooms foster learning at a distance. Technology is utilized in order to deliver individualized instruction. As outlined in Virtual High Schools: Practicalities and Possibilities, virtual classrooms allow for learning to occur outside of the traditional classroom. Time and space are no longer constraints on the learning process when students are provided the opportunity to access education opportunities beyond the traditional classroom. Virtual classrooms offer a solution to schools that lack resources, especially a diverse course catalog, which can assist schools in reaching the diverse needs of all students. Although there are many concerns with this newer form of education, it is important that any parent and/or student considering virtual learning take the student’s ability to self-regulate and communicate with others before making a final decision about whether or not to enroll in a course.

WebQuests

WebQuests are inquiry-oriented computer-based activities in which learners utilize information from the Internet in order to produce a technology based product. Every well developed WebQuest should include Introduction, Task, Process, Resources, Evaluation, and Conclusion pages. It may also include a separate Teacher Page, which should contain relevant classroom material, including connections to standards, content area(s), grade level(s), and objectives. WebQuests afford numerous best practices, not limited to authentic learning, differentiation, scaffolded learning, self-guided learning, and self-paced learning.

Wikis

Wikis are online environments that are used to quickly develop collaborative works by a community of users. They are an electronic location where users can quickly and easily collaborate with one another to create a single product. The most well-known example of a Wiki is Wikipedia, a website that many Internet users are familiar with due to the ability for users to quickly research and find information that they are in search of. In fact, Wikipedia, entries usually appear in the top ten search results for just about anything searched for on the Internet. Although there is debate among many educators about the validity of information housed on Wikipedia pages, it is still important to teach students about the components of and potentials of Wikis. Most importantly, teaching about Wikis affords teachers the opportunity to teach students about how to evaluate Internet content for validity and how to use the Halo Test when performing Internet based research, which supports the idea of SSCC and knowing how to effectively Search, Sort, Create, and Communicate.