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Today more than ever before, kids are growing up with technology. From a young age, kids are constantly around televisions, computers, and other gadgets. As Marc Prensky points out in his article “Digital Natives, Digital Immigrants” technology just comes naturally to these digital natives (Prensky, 1). Generations past were not exposed to such levels of technology, especially so young. Less than ten years ago, some students were learning about computers in school, learning to type around age ten. Kids today are playing games on the computer before they can talk. Technology is what students know. It is to a teacher’s benefit to take advantage of this knowledge. There are new levels of creativity opened by technology. Students can express what they know in such a variety of different ways; as Egbert states: “let students show what they can do, rather than what they cannot,” (Egbert 137). Giving students the opportunity to use technology and divergent thinking, instead of telling them they must write a paper, gives them the freedom to show what they know in the best way possible for them. If students are allowed some choice in what they produce, they are likely to be more interested and more engaged in the learning process.

Technology can also speed up a process so that a certain task is made possible only by the fact that it is so fast. One example is communication technology such as videoconferencing or email. If email or videoconferencing is being used for the purpose of two classrooms sharing information, that collaboration between students might not be possible without the communication technology because of time and financial constraints. Not many schools can coordinate a face to face meeting with another school, especially if the other school happens to be in a different state or country. Technology is making many things possible people in the past probably could not have imagined.

Classrooms are not the only place where learning can occur. Many of today’s digitally native students expect that their classes have an online support page where they can look up assignments, find resources, and generally network with the teacher. According to Egbert, students benefit from teachers using technology to help them network outside of the school day (Egbert, 71). With a main class page system set up, teachers are better equipped to communicate with their learners, collaborate with their peers, and connect their teaching to the technological environment where many students thrive. If you chose to make use of a main class website one should get it running as soon as possible *before* the first day of school. The teacher should also become well versed in the ways to post, upload, and edit the site so that they can be sure that they are able to update the information regularly. Now let us look at some of the more popular options for main class websites.

Wikis are hosted websites where online users can edit the content or organizational structure of the site. There are two basic kinds of wikis: open wikis and closed wikis. Open wikis allow anyone that is online to edit everything on the site. Closed wikis only allow registered members of the wiki to edit the site. Using this kind of a framework will give your students the ability to post questions, comments, assignments, and other interesting things for others to look at. In this way you can create a learning community for the class fairly easily. It also provides an awesome opportunity to be flexible with your students in how things are organized and what information they need on the site. Yet, allowing the students the capability to edit the place where you will assign things forces you to trust that the students will be mature in their choices of what is appropriate to post for the class and what parts of the site to leave untouched. Sites like PB Works host wikis. Check them out here <http://pbworks.com/> …or find your own host site!

Blogs are like online journals/diaries that you can use as a main class website. This format allows you to post things for your students and the students are allowed to comment on it. This allows the students to post any questions, comments, or other interesting stuff on the site and create an online learning community, and they will be able to do this without being able to edit the stuff that you post or the freedom to restructure the site. Check out Blogger here… <http://www.blogger.com>.

Websites like weebly.com allow you to create your own website. They are easy to put together because sites like Weebly generally have a great user interface and simple to use commands. It also makes it easier to update and edit the site quickly as teachers need to be able to do. However, this ease of use also makes them limited in what they can and cannot do. This is because they are limited to the operations that they give as choices on the menu. There is an option on Weebly to edit the source html/ccs code of the website so that one can create custom elements for the website. Yet, unless one has a degree in computer science or at least some form of code training this feature may cause more harm than good. Once you have built your site, one can publish the website with the weebly domain for free or buy your own domain name. Yet, since these websites can only be edited by the teacher an element of the learning community is gone but you can be sure of the website’s content being exactly what you want it to be. Finally, Weebly is a great place to get a website up quickly, easily, and have quick editing access. Check it out here! <http://www.weebly.com/>

Large numbers of modern schools have their own webmasters, technical advisers, and/or resources for creating a class website or posting class resources on the internet. In fact, many of these technology-savvy districts would prefer that you used their format for creating a website. Be sure to know your school district’s website policies, requirements, and resources before stepping out on your own.

Today we have so many ways of quick communication with people all over the world. Communication technology is appearing more in daily life and making its way into the classroom. Listed below are some examples of communication technologies and how and why they are used in the classroom. It is important for students to know how to communicate well and communicating with technology is a useful skill. Communication technology lets students connect to other students in different locations, collect data from sources firsthand, or learn from a person outside the classroom that has a specialty and can share their knowledge to the students’ benefit. If students have projects that require collecting data to share with another classroom, they have what Egbert calls an authentic audience, a reason to do a good job besides a grade.

Videoconferencing programs are great for having students collaborate with peers that they might not otherwise be able to work with. It lets students in two different locations see and talk to each other through internet. One use for it is to have students collect data for a project that requires data from different groups or different locations. The groups can then share with each other – Skype is an example of a very popular form of videoconferencing.

Downloading Skype: <http://www.skype.com/intl/en-us/get-skype/>

GoogleDocs is a great online tool where students in a group can edit one document at the same time. A document is created or uploaded and people are added to the group to see the document. When students are simultaneously editing the document, students can see their peers editing the document as it is changed. This is a great tool for students in and out of the classroom to collaborate within their class on a single paper, document or presentation. It’s faster and more instantaneous than email and saves time and the confusion of emailing back and forth and copying it to all group members.

Starting a GoogleDocs account: <https://docs.google.com/#home>

There are email providers, such as Gaggle, that are good for student usage. They let teachers monitor their students’ emails to make sure they are safe and appropriate. This is good for students to collaborate with other students in other parts of their state, country or the world. Emailing would be good for a social studies class so students could contact students from other cultures and get first hand information instantly on other cultures in a safe setting.

Getting Gaggle.Net: <http://www.isaacschools.org/gaggle/index.html>

MindMeister is a concept mapping program online. The initial map is created and members added, so each member can add their own nodes. This works well for in classroom work or out of class time group brainstorming. In class, students can be working on different computers throughout the room and each one is updating the concept map simultaneously and everyone else in the group can see new nodes as they are added. Out of class, multiple people can be editing at once, but it can also be updated at different times and the map will reflect the changes made instantly.

Signing up for MindMeister: <http://www.mindmeister.com/>

Prezi is an online program that is used to make presentations. Unlike Microsoft Powerpoint, it is not linear in its design. In a Prezi, each part can be accessed at any time by simply clicking on it. This tool would work really well during a lecture that is not as interactive as others. The way a Prezi presesntation transitions between “slides” is interesting – and within the presentation, the presenter can go back to a previous slide or skip to a forward point without it being obvious and flipping through slides. In each slide there is also an option to zoom in so the print will appear bigger on the screen. A particularly well designed Prezi – whether with content or colors and other aesthetic factors – can hold students’ interest more than just the teacher lecturing the class. Students could also choose to make their own Prezi as a project, a way to demonstrate what they have learned in a concise way.

Signing up for Prezi: <http://prezi.com/>

“A WebQuest is an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web,” (Dodge). Usually, the content in any given WebQuest is all dedicated to a central theme or question that the creators use to frame the learning that the WebQuest facilitates. In terms of design, WebQuests can be fancy, full-blown websites to simple notepad or word documents with links to online sources. These interactive learning journeys work well in a variety of different classrooms, and one can find them on almost any topic known to man. Alternatively, one can write their own WebQuest specifically for the learning needs of your class. WebQuests are useful to teachers because they can provide a wealth of information that one may not have encountered in the textbook. Most of them are also free unless the teacher registers with a premium WebQuest provider. However, one should be careful to note the author of the activities and monitor the linked sites for bias. Some sites to fine free WebQuests and WebQuest resources are as follows.

* <http://www.zunal.com/>
* <http://www.middleschool.net/less_tut/webquests/webqmain.htm>
* <http://webquest.org/index-create.php>

There are many different technologies out specifically for use in math classrooms. Math is one of the areas where new technologies are constantly being developed and improved. Calculators, for example are always becoming faster, sleeker, more powerful with every new model. As Egbert points out, technology can enhance learning, but using the technology should always be about what the technology is helping students to learn. Detailed below are a couple technologies that are beneficial in the math classroom.

The SMARTboard is a relatively new technology (invented around twenty years ago) that is not very widely used. This interactive whiteboard enables students working on the SMARTboard to interact with the projected computer image. The teacher can prepare interactive Powerpoint presentations with problems for students to solve on the SMARTboard or use the program Geometer’s Sketchpad so students can demonstrate their work in front of their peers (Price). Using the SMART board is a great way to get students working with a new technology and to interact with the material more.

Calculators have been around in math classrooms for a while and have become fairly common. They can help with multiple representations and long, tedious calculations. But more and more often, students have calculators that are able to do more complicated calculations and graphs. Though there is widespread use of the calculator, there is still debate about in which classes and how often it is appropriate to use it (Mason). It can be a great tool to check work and visualize graphs, but students can also become dependent upon the technology. One way to avoid this is to allow limited use of the calculator. Also, when first learning a new skill, for example integration, students can learn completely without a calculator for practice and to show the calculator is just to check work and speed up the process rather than something to think for them.

Technological integration into the music classroom is not as clear-cut as many other disciplines. Much of what music students learn in the music classroom comes from experience or demonstration. Nevertheless, students also learn through creative production. However, a couple types of technological applications help to enrich the music classroom. These are music notation software and ear training programs. The unfortunate truth about many of these programs is that they usually cost a lot of money. Although some of these programs have scaled-down versions or demos that do not cost anything and many times this free version will be enough for the use in a public school environment. The companies may also give you special pricing if you are a teacher or a school district. The key thing to consider it that the earlier that you have these systems in place in a child’s musical development the more influential the impact will be on their musical development. Let us look at some options for both music notation and ear training.

Music notation software provides a workplace for students to create their own music. The process of writing music is an intensely creative experience that gets students engaged in the process of finding their own artistic voice. Producing a piece of music for an authentic audience that is outside of the music building is also a challenging and engaging prospect. Egbert endorses the need to emphasize creating creative and divergent thinking tasks and the need to produce for an authentic audience as key parts of effective learning (Egbert; 132, 185, 188).

These reasons support making use of music notation software, like Finale or Sibelius, a goal for your music program. Find Finale and Sibelius here…

* <http://www.finalemusic.com/>
* <http://www.sibelius.com/>

In addition, to the creative process of writing music, students need technological support in learning other skills. For example, many music educators like to use software programs to help support those students learning to read music on sight and to recognize common patterns in music. For this we use ear training software like the program Auralia. Being able to hear the music and know how it would look on a page is a skill that should be honed in even the amateur musician and there is no time better than the present to implement an ear training portion of curriculum. Music is like a language in that the earlier you start trying to learn this the easier it will be. Check out Auralia here… <http://www.sibelius.com/products/auralia/index.html>

Technology is always changing and improving. It evolves quickly into new, faster, and better. Because it does move so fast, it will be hard to integrate technology into the classroom and to keep it up to date. As new versions are made and old ones discarded, teachers will have to be constantly learning new technologies to keep their classrooms technology integrated. Students are a great resource for this. Students are the best at keeping up on what’s new and what’s now. If asked, they probably have plenty of ideas on how new technologies can be used in the classroom.

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