

Technology Tips

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The Science and Technology Issue!

No folks! I'm not going to start writing about other high schools in the city here in the HSofC Tech Tips! This is all about some of the innovations in science and technology that are out there right now and border on the magical when we think about how far we've come in the last hundred years. I mean, let's face it, for some of us...let's say, born when Ford was just a type of car instead of a president, things have gone from science fiction to science. I'm going to paraphrase Dan Brown's Angels and Demons here and say, "Good science fiction is based on good science".



What do I mean? Think about the accompanying image here folks. Star Trek has gotten even deeper into our culture than just a campy TV show that spawned reruns galore, five more spin offs, nearly a dozen feature films, not to mention keeping William Shatner working for the last

forty+ years. There have been things like: a space shuttle named Enterprise, nano-technology, medical scan devices ala Dr. McCoy, cell phones linked to the Internet, GPS location devices, the discovery and advancement in anti-matter studies, and whole hosts of other technological wonders that were simply fantasy just a few decades ago.

Why am I mentioning it here in the Tech Tips??? That should be fairly obvious I would think. As teachers, we have to make sure our students have a clear understanding of what is in the realm of possibility for them. Considering the limited amount of evidence I've already given you, the fact is, there are no limits for all intents and purposes.

Now, is any of this easy? No. Does it take years of study and hard work? Yes. Of course, that's nothing you didn't know already, right?

What we have to do is make this study and work come to life in a vibrant and exciting way for the students. Simply studying pie charts and graphs on spreadsheets and in databases is boring and downright dull. However, what if they were the ones creating the pie charts, graphs, spreadsheets and databases? What if they were the ones documenting the levels of acidity in the air in urban areas and studied it's affect on environmental systems like the ones found in Forest Park over the course of a year? How could they become involved with finding a solution to the energy crisis with regard to heating fuel costs we find ourselves in by studying and documenting their findings on fuel consumption and the types of insulation used in homes in Springfield?

What this would take would be a concerted effort to utilize not just PowerPoint presentations that include information they've found on webpages and other reference materials, but a

Integration!!! One small step ...One giant leap!!!

Ladies and gentlemen, over the last three years I've been telling you about all sorts of stuff that you can do with the technology that we have right here at the good ol' HSofC. Many of you (but not all ...YET!!!) have had me visit your classes in one way or another over that time to help with one techie thing or another. Well, it's time to kick it up notches unknown (as Emeril Legasse would say). We'll still be doing much of the "basics" with regard to utilizing technology in the classroom (there'll always be a need for that I suppose), but we'll also start to mix it up a bit and integrate different systems and software.

The reason I'm telling you this is because many of you have a basic understanding of what using technology in the classroom can be all about. That's incredible!!! Kudos to you!!! There has been a great deal of work done with regard to using functions of word processing, basic multimedia presentation, and research on the web. I think that's excellent!

Now that we've got that under our turkey-stuffed-to-the-brim- belts, let's take it to the next level and start to utilize all these programs we use as a matter of course in our classrooms in combinations together to help provide a deeper understanding of the material and let the students show off what

they know! How convenient would that be??? I know!!!

Seriously, many folks are fully aware that research is being done on the internet, but how many people are aware of the tools to create citations that need (copy right laws being what they are) to be in any scholarly paper or presentation where the use of text, pictures, sounds, or even ideas might be used?

Or, if you happen to be creating a multimedia presentation on the correct formula for the creation of the cookies that might be left for Santa, you might want to create a spreadsheet for the ingredi-

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Stuff To Know

ALL THE FOLLOWING ARE AVAILABLE IN B-010

- *I am available to co-plan, co-teach, and work out just about any other method for the integration of technology in your classroom. I am a good resource for ideas and inspiration when you find yourself in a bind trying to find an activity that will make the most appropriate connection with a lesson.*
- *Schedule a time to get trained for the use of the laptop carts.*

No training = No laptop cart use.

- *The Springfield Public Schools has a district license for...*

GradeKeeper

Please stop by B155 for details

- *E-mail and MassOne accounts are a necessary part of what we do these days. If you don't have either one, please stop by B155 and sign up for them.*
- *If you're planning on the use of lap top carts, please reserve one as early as you can. Also, please be considerate of the needs of your colleagues when planning the length of time you'll need the cart you'll be using.*

The Science and Technology Issue!

Sites to check out

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deeper study that requires them to build the databases with information contained in varied media types as well as spreadsheets. This can be done right here at the good ol' HSofC despite the equipment we have at our command now.

As an example, in Chenistry the study of Stoichiometry (for those of you who don't know what this is...)

–noun 1. the calculation of the quantities of chemical elements or compounds involved in chemical reactions.

2. the branch of chemistry dealing with relationships of combining elements, esp. quantitatively.

Also, *stoi·chei·om·e·try* /
 □stɔɪkəɪ' ɒmɪtri/ Show Spelled Pronunciation [stoi-kahy-om-i-tree] Show IPA.

Origin: 1800–10; < Gk *stoicheio(n)* (see *stoichiometric*) + *-metry*

From dictionary.com



is done in February (according to my copy of the *High School Science Pacing Guide* found on the SPS's Learning Center). If we were to start planning for it now, we could set up field observations (maybe in conjunction with Forest Park's ECOS program) for several different periods throughout

the rest of the year to document the affects of various elements or compounds on living environments or systems during different seasons.

Whether the project has to do with understanding the nature of pollutants in the air to determine its affect on trees and plant life or animal life is for teachers of biology and chemistry to work some kinds of cooperative learning strategies in. In either

case, observations, measurements, specimen collection and the recording of all the data would, of necessity, be put into spreadsheets such that it could be easily sorted. Additionally, the spreadsheets could then be sorted into databases of information that could be used to support the findings of the students.

The resources are here for us to use. What's the worst someone could say to us about trying to put together something like this for our students, no? If that's true, then we try to make something else work just as well. It's what we do all the time, we're teachers!!!!

Now I'm pretty sure that many of you have heard of this site before but, just in case you haven't;

THINKFINITY

This site is amazing!!! A truly impressive amount of resources across all content areas. Materials galore!!!

Because the site is so comprehensive and does offer so much, the folks at Thinkfinity decided that there should be professional development available to all of you so that you don't get overwhelmed with all the information. The really cool thing about this is the fact that somebody will come here to the good ol' HSofC (or any one of the other places where our friends are) to do it for nothing!!! What's even better? The person that would be doing your training would be yours truly. I'm a certified Field Trainer for this group and I'd love to set up a training for this resource for all of you.

I know, it sounds like I'm selling something folks. I suppose in a way, I am. The catch is, there is no catch. You get training, PDP's, and a great resource for things like:

- Lesson plans
- Worksheets and materials
- Primary source documents
- Multimedia presentations

There's so much more available. If you'd like to set up a group of your peers that wants the training, contact me and we'll put something together so you can get to use this resource to the fullest.

"Perhaps the most valuable result of all education is the ability to make yourself do the thing you have to do, when it ought to be done, whether you like it or not; it is the first lesson that ought to be learned; and however early a man's training begins, it is probably the last lesson that he learns thoroughly."

Thomas H. Huxley
 English biologist (1825 - 1895)

Integration!!! One small step ... One giant leap!!!

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ents that details things like quantity, quality, purpose, and affect. But then, if you happen to be studying the formulas from around the world, you might want to create a database that includes all the data collected over the length of time Santa has been eating cookies (make sure you have a very large hard drive to store the info!!!).

In any case, you'll probably want to be sharing this information with as many people as possible. I mean, we do want to keep the Big Fella happy now don't we? Including this information on a web page you've had the students create would be an outstanding way of doing this wouldn't it?

One of the best things to remember also is the fact that, if you're using the machines here at the good ol' HSofC, you'll have



the MS Office Suite of programs to use. That means you have the programs: Word, Excel, FrontPage, Access, PowerPoint, and Outlook. To simplify, word processing, spreadsheets, web page creation, databases, presentation, and e-mail. Many folks also have MS Publisher as well which is essentially for desktop publishing.

Now, because you have these very powerful tools at your disposal you're thinking, "I don't use all these programs Ed". That may be true but, as I've said on any number of occasions to folks, If you use one of these programs and get really familiar with it, the others aren't really all that hard to figure out simply because Microsoft created them to function on pretty much the same principles and looks. Also, you all have me. Cool huh? The other schools have their Instructional Tech Specialists and they can help out all the folks who aren't here at Commerce at least as well as me (if not better).



Anyway, these programs were designed to work well together and it seems a shame to not utilize them to their fullest. By combining their functions we can make possible the creation of products that more fully enable students to understand (and subsequently retain) content knowledge.

I suppose you could say this whole article could be boiled down into one analogy. Using technology in the ways I've just described is something like a carpenter doing really good finish work on a particularly exquisite piece of furniture. He, or she, uses many different fasteners, hammers, planers, sanders, chisels, and any number of other tools. The craftsman uses the right tool to get the right result. The same is true of us. We have to utilize these tools by integrating their functions cooperatively to help form the thinking and abilities of our students and create the sort of lasting talents and abilities that will aid them throughout their lives.

Research- What it is & how to use it Part IV

Good Gawd Ed!!! When is this series of articles going to end??? I'd think that'd be fairly obvious by now folks. We have so much to do in terms of what our students need with regard to the nature of "research" that it seems a bit shoddy if we don't, at least, try to finish the job as best we can. For instance, since we've covered what research is, what it isn't, and what our questioning techniques need to do, it would seem about time for us to discuss the first aspect of what we should do in terms of direct instruction for the students.

FOCUS!!!

The thing that students rarely do when we start them off on their first foray into the wonderful world of research is focus on the topic that they really want to look into and learn more about. I mean, how many times have we heard a student say something like, "I'm going to write my paper on symbolism" when they're in the middle of a unit on poetry? What about "I'm going to write about AIDS" in Health class? Or, and this was one of my favorites, "I'm going to write about Physics" after discussing the uses of calculus.

Let's take a look at some of the things we can do to nudge our students in the right direction (or at least the direction we'd like to see them go).

1. Use the parts of speech "What", "Why", and

"How" to help determine a course of action/train of thought. You're thinking "I do that all the time Ed!!!". True enough, but do you direct those words in such a way as to encourage the critical thinking skills of THAT student you happen to be speaking to at any given moment? Does your use of those words also point the student in a direction where they can be successful for their level of competency and, hopefully, raise the level of expectation and achievement?



2. Have a number of resources already available to get them started on their research. One nifty way of doing this is by using a TrackStar track. [TrackStar](#) is "your starting point for online lessons and activities. Simply collect Web sites,

enter them into TrackStar, add annotations for your students, and you have an interactive, online lesson called a Track. Create your own Track or use one of the hundreds of thousands already made by other educators. Search the database by subject, grade, or theme and standard for a quick and easy activity." according to their website

3. Have examples of successful projects done by students available for viewing. This is always a good thing to have in any situation simply because of the mileage you can get from the phrase, "That's what it could look like".

Of course, these are just the beginning. We have to help our students to see not only the "big picture", but also the "minute details" as well. In the investigation of their individual project content (or even a whole class), students (and teachers as well I suppose) need to know that details are what make learning real. They are the foundation for everything that follows them and subsequently, the basis for any of the four types of writing (persuasive, expository, narrative, or descriptive) that might be used to answer open response, long composition, or project form questions.

"Education... has produced a vast population able to read but unable to distinguish what is worth reading."

G. M. Trevelyan,

And so gentle readers...

You'd think that I'd still be too depressed to talk after the backside kicking the Patriots got this Monday from the Saints. In reality, I don't feel too bad at all. I mean, am I bummed out because of a loss? Yes, of course. But I figure that the Saints were the better team that night. They played a better game all around and they deserved the win. Anyway...enough of that.

I have to speak to you about a matter of importance this time out. Something so stupendiferous it could shake the foundations of education itself!!! So...I should probably just get on with it shouldn't I?

"In 1898, a commercial department was formally organized at the new Central High School with one room for two teachers and 37 pupils. By 1906, the department had grown to nine teachers and three hundred ten pupils and was transferred to the new Technical High School. On Nov. 25, 1910, the growing commercial department was established as a separate school to be known as the Commerce High School. Only one month after it was established, its name was changed to the High School of

Commerce. Until a new school could be built, classes were held during the afternoons, once again at the Central High School."

"Springfield Public Schools-Students Look At The Past. 1. 1. Springfield, MA: Mass Mutual, 1986. Print."

I know that I quoted this passage last issue folks. Believe me, I'm fully aware. It's just that we've passed the 25th of November and we're now in our 99th year as the High School of Commerce. We are the longest continually serving public high school in the City of Springfield!!! While Central High School obviously exists as well, for many years there was no "Central". There was Classical High School (my alma mater) and Technical High School, but no Central. In 1986, Classical and Tech closed their doors and merged to create the present Central High.

Oh sure, there are those who'll say that Cathedral High School is an older school, but that's in name only. Cathedral was founded by the Sisters of Saint Joseph in 1883 and was originally housed at Saint Michael's Cathedral. Since they outgrew their facilities in the mid 1940's, the Diocese of Springfield bought some land in East Forest Park and built their

current location which opened on September 9, 1959. While Cathedral has been around, in name, longer than Commerce, the good ol' HSofC has been serving in the same building for far longer. Oh sure, there was a short period of time when the HSofC moved out for renovations, but this building (415 State Street) has ALWAYS been known as the High School of Commerce.

Why do I make mention of this again? Because we have to have pride in the contributions that our school has made to and for this community. We have to be proud of the fact that we're still making them today. Since that's so...why shouldn't we be showing it?



Mass Mutual



Life Lessons in Imagery

Those of you who've been following this section of the "Tech Tips" over the last several years are fully aware that I've been showing that images we see everyday in newspapers and all sorts of other media are snapshots of life and that the comics we see are certainly excellent examples of this. Every day there are teachable moments to be found throughout the articles in the newspaper, and yet, somehow we neglect to include the gentle humor of Charles Schultz's "Peanuts" or the sometimes not-so-gentle reminders of our "common humanity" from artists like Tom Batulik and Gary Trudeau. I'll be mixing it up this year by giving you as much as we can without violating the "fair use" tenets of copyright laws as they apply in educational situations. Enjoy and share!!!

Ed Musiak

Old school technology...

