

Introduction:

Using Technology to Accomplish Educational Objectives

What This Book is For

There are generally two schools of thoughts on educational technology: those schools or teachers who focus on educational technology and those schools or teachers who focus on helping students. I would like to make it very clear what type of book this is. I have had many positions in education. I have worked as an English teacher, school library media specialist, technology coordinator, and educational technologist, both for a school district and as an independent contractor. Throughout all of these positions, one of my driving passions has been helping teachers develop skills that allow them to better help students. I wrote this book with the hope that, through it, students' lives that I might not have otherwise touched will be positively impacted. I write this in good faith with the belief that if you are reading this and reflecting on our shared professional practice, then you also have the students' best interests at heart.

Whatever your specific position, we are all educators; we all impacts the lives of others in a meaningful way. It is up to us how that meaning is defined. Technology is not just something to do; technology involves choosing the right tool to help students meet specific goals. While there will be more specific information about this later on, it is one of the founding principles of this book. Technology is never to be used because it's new or neat. Educators need to start with their goal and determine what exactly they want to students to learn or to do, and only then should they begin looking for the right tool to help them to do so. At one point, pencils and paper were looked at as extra and not necessary to education; now they are ubiquitous. Students can use those specific tools to write an original story or to copy vocabulary words 10 times each, to write

an encouraging letter or a demeaning note. The tool is neither responsible for good work nor for poor results. It is all in how it is used.

The progress of technology is something that is far beyond anyone's control. Through current and future standards, whether they are national, state, or otherwise, teachers are going to be, if they are not already, required to integrate technology. There is a skill that is absolutely vital to every teacher and student even though it is not covered in any standard: the ability to adapt. Our students need this to thrive in a changing and dynamic world, but teachers cannot teach this explicitly. It needs to be modeled and internalized. Whether it is for better or for worse, education is changing. Change is difficult as there are few institutions with greater inertia and resistance to change than education. This seems to be true of most countries from educators that I have talked to around the globe. If we accept change as inevitable, the question facing educators then becomes do we resist change or do we become the instruments of it so that we can try to make sure that it is a change that is beneficial to our students? If you are required, by law, by your principal, by your school culture, or by anything, to integrate technology, you can either tack it on at the end of a lesson plan or you can make it part of your professional practice. The former never ends well. It is miserable both for teacher and student. The latter, when done carefully and with the students in mind, can have a positive, transformational effect on everyone involved.

I want there to be no misconceptions about this book's purpose. Technology is not a panacea for education. There is no single panacea for education. All educators need to constantly reflect and see where they need to improve. Technology is one component. Technology, because of its changing nature, cannot be mastered. In fact, by the time this book reaches you, it is possible that 1 or more of the tools mentioned have changed or better tools have taken their

place. What are important are the skills and techniques that are provided herein. If you internalize the techniques and message of this book, then you will be able to successfully integrate technology, whatever form it happens to be in, into your classroom.

As an educator myself, I never recommend anything to another teacher that I have not tried. This book is no different. You can be confident that if a tool has been presented, I have personally tested it thoroughly and used it successfully with my students or in collaboration with other teachers. In addition, I will never recommend anything because it is fancy or new. Everything presented in this book has been proven to have real educational value when properly utilized.

Technology Will Not Always Work

An important caveat that any honest educator who has been integrating technology for any length of time will tell you is that technology will not always work. This may seem like an odd thing to say in a book about teaching with technology, but your expectations of this book and technology in general need to be realistic. The technology that is available for us to use to help students is amazing not by itself, but because of what the students do with it. Technology is not a panacea or the Holy Grail of education.

Technology is a wonderful tool; it is one aspect of teaching. As you become more comfortable and invested with embedding technology into your instruction, it will become clear that technical proficiency does not equate to good teaching or real learning. As educators, we all must continue to improve in all areas, both our strengths and our weaknesses. Because education is a dynamic and relational field, few things can ever really occur in isolation. As we grow in our understanding of not only technology, but how to teach with it, we tend to also grow in the areas of learning theories, learning styles, teaching strategies, etc... All of these concepts are very

closely tied together and this book overlaps into many of these important, tangentially related topics when appropriate.

You will find that specific technologies will actually suit you best depending on your teaching strategies and the learning theories that you believe in. Even if you cannot name a single learning theory, you most likely subscribe to principles from many different ones. Many Internet and computing tools support constructivism, a learning theory that suggests students learn best when they can create and discover knowledge on their own. Social networking (Facebook is an example of a social network.) really supports social constructivism, which posits that humans, as relational beings, learn best when they can learn from others. Interactive White Boards, sometimes referred to as Smartboards, can often reinforce the traditional teacher centric model of teaching; when they are poorly used, they just because a high-tech chalkboard (IWBs can be used well, but it takes planning and effort to make it truly interactive.). Technology in and of itself is neither inherently good nor inherently bad. While this is argued loudly and often among teachers, technology by itself is useless. This book will both help you to find technology that complements how you teach now and help you to better understand learning theories and teaching strategies by introducing technology that supports differing views of how learning best takes place. It is the opinion of this author that a varied and student-centric approach is best. While you as the teacher are vital in ensuring the environment and culture of the classroom, this book is focused on tools that can move the focus of the classroom to the students to allow them to learn and be creative. This can be uncomfortable at first, but students can only reach their potential when we remove the limits that we place on them and step out of the way.

What To Do When Technology Fails

I've had the honor and privilege of being invited to speak at various national conferences this year on varying topics in educational technology. So, I have always been competent with technology. The people side of teaching did not come as easily to me. I could give a command to a computer and it would do it; that rarely worked with my students. While I have grown a lot as a teacher, my first year was very difficult, which is fairly normal. There are milestones in everyone's teaching career. One of mine came during that first year when I planned a fun poetry wiki project (a class site that every student can contribute to). Basically, they were building a class poetry book. This required the Internet because the students would create their own pages on the wiki and post their own original works.

Unfortunately, the ethernet port that you plug the computers into to get to the Internet broke off inside the wall. After spending 10 minutes handing out laptops and another 5 giving instructions, I realized the students could not get online. The students chatted pleasantly while I tried to figure out the issue. After I realized the problem, I thought I could solve it. I spent at least 20 minutes trying to fish the port out of the wall with paper clips and scotch tape. I tried to use my screwdriver to break the cover off, but a student thankfully informed that it wouldn't be a very good idea. As this was going on, the students chatter grew louder and less pleasant. At this point, at least 40 minutes had gone by. Defeated and frustrated, I had the students put the laptops away and the next 10 minutes was a wasted teaching opportunity.

I was too inexperienced to understand how to react properly. In this instance, I did not teach my students to adapt. I wish that once I had realized it was not an easily fixable problem, that I had the students come up with ideas for their poems, start writing drafts, and depending on how far they got, collaborate and peer edit. The technology made sharing easier, but in this instance, the lesson could still have worked well without it. If I really thought the wiki was

essential, I could have just pushed it back a day or two until after the students were done writing. This was a simple mistake, but it had a lasting impression on me as it taught me to always have a plan b. Now, no matter what, I always have at least an idea, if not a full plan, of what to do if the technology does not work. Technology can greatly benefit teaching, but teaching can still happen without it. That was an important moment in my first year.

There are, though, some techniques that can minimize situations like this. First, test the technology. If you want your students to build a website, for example, then build one yourself first to gauge how long it should take them. If you want them to take pictures with a digital camera, try it the day before. Make sure the cameras are working and have charged batteries. It sounds simple, but just testing our plans can be so easily forgotten in the chaotic hustle that is what we do. Second, be prepared for anything. Personally, I always have a backup plan. It can be anything from a basic idea, a conversation starter, or even a second fully developed lesson. I am not suggesting that you write two full lessons. I am suggesting that when you plan your original lesson, you brainstorm related ideas that do not require technology that way you never end up scrambling because you were not as prepared as you could have been.

Here is another story from Hadley Ferguson, an excellent history teacher and technology integrator. You can read similar stories from other teachers, new and veteran alike, on the companion site to the book, <http://jasonbedell.com/?p=215>. You can read more from Ms. Ferguson on her personal blog, <http://hadleyjf.wordpress.com>. Remember, these stories are meant to encourage you, not to discourage you. Failure is a part of learning, and it is only through occasionally failing that we can know what truly works best for our specific students.

“My worst moments with technology have come when I found a great tool, that in my head totally supported what I was doing in the class, only to find as I employed it that the time

required for the students to use the tool to show their learning was far beyond the time the lesson needed. The worst example of this was when I thought it would be fun for the class to create a movie showing the causes of the Revolutionary War. It is a great time to highlight cause and effect, as the Americans and the English act and react to each other, an important lesson in history.

“So I divided them into groups and had each group choose 4 key events that led to the war. They then wrote and script and planned for their shooting. At this point, it seemed like a brilliant plan. They were talking about all sorts of history ideas, debating significance and making clear choices about what to include and what to leave out.

“Then it was time for the filming, and each group had 4 major events to portray. The back of the classroom was piled high with costumes and props that they had created. And the filming began. Each group disappeared off, around the school, to get the best backdrops for their scenes. After the first day, a slight portion of one scene had been finished. After the second day, a bit more. So it went for over a week, by which point, I was beginning to wonder if there was any history being learned in the midst of the mad dashes for costume changes and grabbing of props.

“They were having a great time, one that I let go on for almost two weeks, when I finally pulled the plug. At that point, the students didn’t even protest, a sure sign that the activity had gone past its time of value. It was a good idea, but one that needed to be focused better. I had given each group far more than they could accomplish while still in the learning phase, one that used the technology to supported the growth of the students’ understanding of the topic.

“When I do it again, I would still have them make a movie, but I would assign one event to each group and then create a class movie. That would engage the students in creating the movie, but make the task one that could be done in an appropriate amount of time.”

Where to Start

There are many ways to plan good lessons, but most start with an educational objective. This can be a state standards or simply just something specific that you want the students to know or to be able to do by the end of the lesson. Without a well-thought out objective, the plan has no focus. After a good objective is decided on, methodologies and assessment can be decided on.

Technology can aid both methodology and assessment; however, without an educationally sound objective and a good foundation in pedagogy, all the technology in the world would be just bells and whistles that do not really augment the learning process. The different chapters in this book will give you many ideas of which types of tools work best for different types of objectives. Knowing the individual tools, though, is not as important as becoming proficient at matching tools to skills and objectives. The tools that are available today are not the same tools that were available 5 years ago or will be available 5 years from now. Teachers understand adaptation; we have to adapt to the changing needs of over a hundred students, on average, in a year. Ideally, we adapt and change what we do so that each student can get what he or she needs. In today’s culture, we just need to apply the skills that we have at adaptation to changing technology and teaching strategies.

How to Use This Book

The first chapter of this book deals with getting you involved with a global community of teachers online. It is a very important launching point which will make the rest of your journey

much easier and more excited. So, it is setup differently from the rest of the chapters that deal with finding and using tools that can help teach students. The first chapter helps educators to continue to learn and improve beyond the scope of any book because the community of teachers online is constantly growing, changing, and improving.

All of the chapters after the first deal with a specific technique or idea that you can use with students immediately. For example, 1 chapter deals with digital storytelling, which is, in its simplest form, a way of making storytelling more engaging and interesting to a modern generation of students. For each chapter, the main technique will be discussed, including its pedagogy, the philosophical background of why to implement it, and which learning theory it best supports. After that, one tool will be explored in depth in terms of how to use it. The tutorial section of each chapter assumes nothing about the reader's proficiency with technology. Each step is accompanied by a clear picture and will have links to video tutorials on the books companion site, <http://jasontbedell.com>. Lastly, several lesson plans will be provided that use 1 or more of the tools presented in the chapter. The lesson plans will be detailed enough to easily adapt and follow, and include student instructions, examples, and assessment tools. The lessons will span several different content areas and age levels.