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Why Use Technology?

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Abstract

Technology is changing our classrooms by allowing our children a very comprehensive look at the world. Many teachers, however, are still teaching as if technology does not exist. We as teachers must evaluate our current instructionism to determine if it is still a viable approach to teaching. Integrating technology and project-based learning will reform our classrooms. Students stand to gain the ability to ask questions, apply information and solve problems. This is far beyond what current curriculum standards require of them. These skills are, however, exactly what the work force will require of them when they graduate. We owe it to our children to give them every opportunity to excel. Will we as teachers allow technology to reform in our schools?

Integrating technology into a classroom changes not only the landscape of the classroom but also the learning philosophy that governs the classroom. Once a teacher becomes aware of the possibilities technology offers, old learning theories are called into question. According to Sandholtz, Ringstaff & Dwyer (1997), the classroom of the 1950s, where students listen to a lecture, behave perfectly and are asked to regurgitate facts for testing purposes, is no longer valid. This picture represents many classrooms today. It is an example of the instructive approach toward teaching. 21st Century learning theories focus on teaching the child how to ask questions, apply information, and solve problems. Sandholtz (1997) reminds us that learning is transformative. New work is created as students integrate his own ideas and experiences with their teachers as a guide. This classroom looks very different than an instructive classroom and it works very differently. The roles of students and teachers are altered in order to give the student freedom and confidence to direct his own learning. This is a knowledge construction based approach or constructivism. As technology becomes accessible in the classroom teachers must examine old ways and determine to update their approach.

Teachers need to re-evaluate the philosophies that have governed their teaching or risk being left behind. Drastic shifts in philosophy take time to emerge. The process a teacher goes through in assimilating change is difficult, overwhelming, and often discouraging. Change is not easy. Change is hard work. We know that not all of our teachers are willing to do what it takes to become current, yet, it is the most critical piece of this puzzle. Sandholtz (1997) discovered that teachers' beliefs and actions are the leading force in reform. Technology for the sake of technology will never change a classroom. This journey of change happens only as a teacher feels comfortable with the

technology and excited by the possibilities. Technology reform in the classroom will only happen as teachers are willing to experiment with how they can improve their teaching.

I have a tale of two libraries. Library One has been established for over 30 years. It is firmly entrenched in what it knows and how it knows to do it. The Media Specialist is leery of technology and as a result is not incorporating it into her lessons or making it available to her students. Please understand, I mean no disrespect. This woman has had a wonderful career and has welcomed me into her library. Sandholtz (1997) reminds us that, a teacher forms her beliefs based on years of experience and will act according to what she believes. This library is definitely an instruction-based classroom and her beliefs are highly integrated. The children are not exposed to technology as a general rule and they do not see the connection between the library and the outside world. They are fed predetermined information and not given a chance to discover on their own. They are unenthusiastic about their time in the library and their behavior reflects this.

Library Two has a completely different philosophy. It has a new, technology savvy media specialist at the helm and the kids love it. Sandholtz (1997) defines appropriation as the point at which an individual comes to understand technology and use it effortlessly as a tool to accomplish real work. This statement speaks to what has happened in this constructivist library. Children in this library are exposed not only to books but also to technology. Technology is the vehicle to deliver a world of knowledge. Kids in this library are given the opportunity for hands on experience with technology and are engaged in the process. Sandholtz (1997) warns us that teachers will see their students become excited about learning when they engage in the process.

For the past six years I have been witness to Library One and the comfortable yet deteriorating approach to things. This method is not inherently bad but it does fall far short of what could be happening. I have, just this year, been introduced to Library Two. It has become for me, a living model of what I have read in *Teaching with Technology* Sandholtz (1997). I see clearly the many additional skills that come out of this philosophy. I see the kids learning how to search for their own answers and I see them appropriating technology into their lives and as a result having access to not just the knowledge that the curriculum demands but information well beyond that which is expected. As teachers in the 21st Century we are doing our children a disservice if they leave our classroom without understanding how to navigate the Internet and how to navigate in our global society. The availability of the Internet gives our children access to the entire world right in their own classrooms. We can show them how to gather information, why it matters, what they can do with it, who to share it with and how they can influence the world.

Media Specialists are responsible for teaching how to navigate the library shelves through the Dewey Decimal System according to the curriculum. Recently, both Media Specialists presented the same material according to the personal learning theory that each subscribes to. This gave me an opportunity to watch differing methodology at work. Library One set up a bingo game with cards and chips given to each child. Questions were asked and the corresponding answers allowed kids to fill in their Bingo card. Although Bingo is fun, this quickly wore off and behavior became an issue. Children became distractible and distracting. Library Two presented the same information in the form of a "Jeopardy" type game. Using a laptop, a Smartboard and the Internet, a

"Jeopardy" type game was projected onto the screen. Taking turns, the kids were able to approach the board and touch their choice of squares. This action caused a screen change, which brought up a question. The computer kept their scores and their interest. The kids couldn't wait for their turn at the screen. They were engaged in the learning process. Sandholtz (1997) promises that students will begin to prefer methods allowing for individual involvement rather than passive forms of instruction.

Sandholtz (1997) speaks about students becoming more enthusiastic when working with computers. The most important result being, students learn more quickly when they are enthusiastic. Media Specialist One spent a good deal of time struggling for control of her classroom. Media Specialist Two had a good time with her fully engaged classroom. If we can tap into what motivates our kids mastering the curriculum standards will come more easily and we will have the opportunity to teach beyond the standards. It appears to me that there is a correlation between interest, motivation and productivity. The reformation that will naturally flow from this approach is that teachers will be able to impart more information to their eager classes.

Library One spent several lessons introducing the Encyclopedia. The children learned physical characteristics of an encyclopedia, they looked at an encyclopedia and they were told about the type of information they might expect to find in an encyclopedia. They broke into small groups to share a single encyclopedia and to take turns reading aloud from it. They were told what to read and when to read it. No group was to go ahead of the others, and each child was to read only one sentence. As a group, they recorded one fact that they had learned from their reading. Controlling the situation was the main priority in this situation. Needless to say, the activity did not excite the kids. At

no time was the computer introduced as a means of gathering the same information. Library Two also spent a moment on the actual encyclopedia, but the lesson took a high tech turn when they were taught about search engines as a means of gathering information. They learned how to call up information and how to narrow a search. They learned how to check the reliability of a source, they also learned how to apply and share information. In the end they learned how to retrieve the information and how to print. All of this was demonstrated for them on the Smartboard and then reinforced as they sat down to work at their own computers. Sandholtz (1997) reported that students were often able to work at their computer assignments with little assistance. I was able to see this principle at work. The lesson became more than just a lesson about an encyclopedia. They were given tools that will serve them their whole lives. The children in Library One came away with so much less. This comparison magnifies the failures of our existing system. The curriculum standards were met in both classrooms, but Library One missed a perfect opportunity to link this lesson on encyclopedias to the present opportunities on the Internet. Boss & Krauss (2007) recognized that technology is an essential element in our children's lives. Our children live and will work in a technology-saturated world. We need to be providing them with these experiences throughout their education in order to build into them a confidence in technology. Curriculum should be adjusted in each subject matter to include use of the computer and instruction on how to access the information that the discipline demands.

It is never too soon to integrate technology into our classrooms. The earlier we start the more thoroughly our children will assimilate technology into their thinking. Children of today are already far more advanced than my generation. If we are feeding

them technology all along, they will move beyond wondering how to use it, to fully incorporating the technology into their lives. If technology is completely commonplace to these kids they will move past struggling to understand and will begin innovative thinking because their level of understanding. Sandholtz (1997) noticed kids explored beyond the standard expectation, as they became more independent. This deeper understanding raised the children to a higher level of learning, where interest leads to more learning. Technology in the classroom allows the child to see how information learned in the classroom is applicable outside the classroom. Boss (2007) reported children making stronger connections between learned material and real world application. Our curriculum needs to be adjusted to include this component. Memorizing facts is good but learning how to ask questions and apply information leads to a higher level of understanding. It appears to me that a natural outgrowth of integrating technology into the classroom is an ability to ask larger questions of the world. We are now able to handle more complicated and interdisciplinary blocks of learning.

Project based learning is an interdisciplinary approach to learning. It allows a teacher to teach across a variety of subject areas. We can look at larger, real world ideas if we are allowed to combined disciplines. We see students with a deeper understanding of how subject areas are related and as a result, able to ask complicated questions reports Sandholtz (1997). As children begin to ask questions it naturally leads into project based learning. Projects ask large, complicated, open-ended questions. Children learning under this theory of teaching are taking the lead instead of following their teachers reports Boss (2007). They are learning how to dig for information, how to interpret the information, what is important about the information, as well as how to present the information to

others. If our children are allowed to learn in a project-based environment, their education will have far reaching implications. They will not only satisfy curriculum standards, they will also gain invaluable life skills. Boss (2007) argues that a debate must be had about the needs of students as they hit the workforce. Employers demand team players, information gatherers, creative thinkers and problem solvers. The jobs of today and tomorrow will require a highly assimilated, innovative, technology savvy work force. Sandholtz (1997) agrees that a student taught under these circumstances will meet these advanced technology requirements as stated by the US Department of Labor as well as exceeding standard literacy requirements. We owe it to our children to prepare them for the world that awaits them.

I empathize with the Media Specialist in Library One. She is no longer current in her teaching. I do not know if she is even aware of all that she is not teaching. If she were aware, I wonder if she would be willing to do all that is needed to effect change. After reading Boss (2007), becoming a high-tech teacher in a high-tech classroom seems like an overwhelming task. With 30 years of teaching experience her philosophies are deeply engrained and change seems unlikely. I am just formulating my philosophies and I believe that interdisciplinary, project based learning provides for a better education. With that said, the process of making all of this technology a reality in my own classroom seems daunting. How difficult for a veteran teacher to begin again, at a time in her career when she wants to coast. Perhaps, if I am careful not to step on toes, I can influence Media Specialist One to begin introducing technology into her classroom.

References

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