

TEACHER DEVELOPMENT INTEGRATING TECHNOLOGY TO MEET THE NEEDS OF 21ST CENTURY LEARNERS

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Abstract: Today's students' learning styles have changed. Traditional teaching methods such as lectures, students reading textbooks, and teacher dominated discussions no longer are meeting students' needs. According to a 2000 National Center for Educational Statistics study, "American children between the ages of 9 and 17 use technology more than any other age group" (Gillard & Bailey, 2007, p. 87). However, this Paper aims its discussion on "**Integrating Technology to Meet the Needs of 21st Century Learners**" by briefly talking about Education and skills of the 21st Century. Later throws light on the Teachers goals to help students become iKids and truly global citizens. It has also thrashed out the roles of "School", "Teacher", "Learner" and "Curriculum" for the 21st Century. Later the paper explores how we should integrate technology to enable our class a global class room. Finally it ends with an excerpt from a book "**Teaching the Elephant to Dance**", by James A. Belasco, Ph.D.

Introduction

The 21st Century

The new millennium was ushered in by a dramatic technological revolution. We now live in an increasingly diverse, globalized, and complex, media-saturated society. According to Dr. Douglas Kellner at UCLA this technological revolution will have a greater impact on society than the transition from an oral to a print culture. Even kindergarten children can make a difference in the world by participating in real-life, real-world service learning projects. We're never too young, or too old, to make our voice heard and create change that makes the world a better place.

Today's kindergarteners will be retiring in the year 2067. We have no idea of what the world will look in five years, much less 60 years, yet we are charged with preparing our students for life in that world. Our students are facing many emerging issues such as global warming, famine, poverty, health issues, a global population explosion and other environmental and social issues. These issues lead to a need for students to be able to communicate, function and create change personally, socially, economically and politically on local, national and global levels.

Education in the 21st Century

Do we want to create strong connections with students, reach out to all learning styles, and produce an interactive and engaging classroom?

Do we want to make your life simpler, discover new teaching ideas, and aid our communication with others?

Do we desire to know more about technology-based teaching resources to bring our classroom into the 21st century?

Then...

Dear Fellow Educator:

Technology plays an ever-increasing role in society, and students are the first individuals to learn about and adapt to new products. Therefore, it only seems natural to integrate it into the classroom. Technology has numerous uses and benefits that can help enhance your classroom, and thus, improve the learning experience.

And now, most schools are retrofitting their classrooms to fit the Internet into each one. This abundance of technology is unlocking a whole new world of possibilities for teaching and enhancing the learning experience. So if we want to learn effective methods for integrating technology into our classroom, this paper will help us a lot!

21st Century Skills

- *Critical Thinking and Problem Solving
- *Collaboration across Networks and Leading by Influence
- *Agility and Adaptability
- *Initiative and Entrepreneurialism
- *Effective Oral and Written Communication
- *Accessing and Analyzing Information
- *Curiosity and Imagination

One of our goals is to help students become iKids and truly global citizens.

In many countries today's students are referred as "digital natives", and today's educators as "digital immigrants". Teachers are working with students whose entire lives have been immersed in the 21st century media culture. Today's students are digital learners – they literally take in the world via the filter of computing devices: the cellular phones, handheld gaming devices, PDAs, and laptops they take everywhere, plus the computers, TVs, and game consoles at home. A survey by the Henry J. Kaiser

Family Foundation found that young people (ages 8-18) mainline electronic media for more than six hours a day, on average. Many are multitasking – listening to music while surfing the Web or instant-messaging friends while playing a video game. However, as Dr. Michael Wesch points out, although today’s students understand how to access and utilize these tools, many of them are used for entertainment purposes only, and the students are not truly media literate. Read the section below on Web 2.0 and new social communities. Dr. Wesch shows us how to use the tools to enable our students to become truly media literate as they function in an online collaborative, research-based environment – researching, analyzing, synthesizing, critiquing, evaluating and creating new knowledge!

Web 2.0 and new Social Communities

Dr. Michael Wesch, a member of the Advisory Board for 21st Century Schools, made a global impact on August 2, 2008 when his presentation at the American Library of Congress (on June 28), *An Anthropological Introduction to YouTube*, was featured on YouTube. In this presentation Dr. Wesch opens our eyes to the phenomenon of new social communities and to the classroom use of many recently developed Web 2.0 tools such as Jott, Twitter, YouTube (there is also TeacherTube, SchoolTube, and StudentTube), Diigo, Google Earth, and many more.

Dr. Wesch demonstrates how media production and Web 2.0 applications are important tools in education. These tools are important for the study of new social communities as well as learning authentic, 21st century media literacy. He takes the tools of Web 2.0 beyond the common use of entertainment to important understandings of the world. It is the 21st century way to learn and apply important 21st century skills.

“School”, “Teacher”, “Learner” and “Curriculum” for the 21st Century

How should education be structured to meet the needs of students in this 21st century world? How do we now define “School”, “Teacher” “Learner” and “Curriculum”?

Schools in the 21st century will be laced with a project-based curriculum for life aimed at engaging students in addressing real-world problems, issues important to humanity, and questions that matter. This is a dramatic departure from the factory-model education of the past. It is abandonment, finally, of textbook-driven, teacher-centered, paper and pencil schooling. It means a new way of understanding the concept of “knowledge”, a new definition of the “educated person”. A new way of designing and delivering the curriculum is required.

Let us have a glance over the new definitions for “School”, “Teacher” and “Learner” appropriate for the 21st century:

Schools: will go from ‘buildings’ to ‘nerve centers’, with walls that are porous and transparent, connecting teachers, students and the community to the wealth of knowledge that exists in the world.”

Teacher: From primary role as a dispenser of information to orchestrator of learning and helping students turn information into knowledge, and knowledge into wisdom.

The 21st century will require knowledge generation, not just information delivery, and schools will need to create a “culture of inquiry”.

Learner: In the past a learner was a young person who went to school, spent a specified amount of time in certain courses, received passing grades and graduated. Today we must see learners in a new context:

So, imagine a school in which the students – all of them – are so excited about school that they can hardly wait to get there. Imagine having little or no “discipline problems” because the students are so engaged in their studies that those problems disappear. Imagine having parents calling, sending notes, or coming up to the school to tell you about the dramatic changes they are witnessing in their children: newly found enthusiasm and excitement for school, a desire to work on projects, research and write after school and on weekends. Imagine your students making nearly exponential growth in their basic skills of reading, writing, speaking, listening, researching, scientific explorations, math, multimedia skills and more! It is possible. It has happened, and is happening, in schools across the country. And there is growing evidence of schools everywhere having the same results when they implement a 21st century curriculum.

What is 21st century curriculum?

Twenty-first century curriculum has certain critical attributes. It is interdisciplinary, project-based, and research-driven. It is connected to the community – local, state, national and global. Sometimes students are collaborating with people around the world in various projects. The curriculum incorporates higher order thinking skills, multiple intelligences, technology and multimedia, the multiple literacies of the 21st century, and authentic assessments. Service learning is an important component. The classroom is expanded to include the greater community. Students are self-directed, and work both independently and interdependently. The curriculum and instruction are designed to challenge all students, and provides for differentiation.

The curriculum is not textbook-driven or fragmented, but is thematic, project-based and integrated. Skills and content are not taught as an end in themselves, but students learn them through their research and application in their projects. Textbooks, if they have them, are just one of many resources. Knowledge is not memorization of facts and figures, but is constructed through research and application, and connected to previous knowledge, personal experience, interests, talents and passions. The skills and content become relevant and needed as students require this information to complete their projects. The content and basic skills are applied within the context of the curriculum, and are not ends in themselves.

Assessment moves from regurgitation of memorized facts and disconnected processes to demonstration of understanding through application in a variety of contexts. Real-world audiences are an important part of the assessment process, as is self-assessment.

Integrating Technology Resources

First of all, technologies are not an end in themselves; technologies are tools students use to create knowledge and to create personal and social change. There should be full access to technology. If students do not have computers or access to the Internet

at home, together we will find a way to provide them. If we can, we will obtain laptops for every student and teacher. Buildings will need to be wired in such a way that students can access their files, as well as the Internet, from anywhere in the school. Various labs and learning centers should be set up around the campus.

As an example, a small school district in western Arkansas that had a technology lab that would be the envy of many universities and corporations. It had half a million dollars worth of equipment and software, absolutely state-of-the-art, and the school did not have to invest any money at all. They were only required to create a space to set up the lab and provide one full-time teacher. Students use this lab to do everything from architectural design to filmmaking to creating virtual reality programs on various topics. For example, a group of them had made a field trip to NASA in Houston. They filmed what they saw, and when they returned they created a virtual reality program for the other students in the district to use to "visit NASA"!

Here we expect, the teacher to be an expert in these areas, but found that she actually did not know how to use most of the equipment and software. The students had taught themselves using nothing more than some manuals and some online technical assistance. It seemed that the students were naturally inclined to understanding and working with these technologies, and they were highly motivated to learn them. And these were students in a tiny, low-income, rural district! So we can believe there are definitely resources available which will allow us to eventually create these opportunities for all schools and children.

So, Let our Class be The Global Classroom

Every day students from countries all over the world collaborate on important projects. The web site, [ePals](#), is a site where teachers and students can go to join or start a collaborative project with anyone in the world. According to ePals, Inc., "Award winning School Blog™ and School Mail™ products are widely used and trusted by schools around the world." As we can have it from our own experiences, from the media, from university research, and as it was demonstrated in the [Did You Know? Video](#), technologies, especially the Internet, have resulted in a globalized society. The world is now "flat". Our world has been transformed, and will continue to change at ever-increasing rates.

In order for our students to be prepared to navigate this 21st century world, they must become literate in 21st century literacies, including multicultural, media, information, emotional, ecological, financial and cyber literacies. Collaborating with students around the world in meaningful, real-life projects is a necessary tool for developing these literacies. Students can learn that through collaboration, not competition, they can work together to make the world a better place. Students will use technologies, including the Internet, and global collaboration to solve critical issues.

To meet the above said, after School also Matters

A new study by Catalyst and the Women's Studies Research Center, at Brandeis University, shows that the workplace productivity of U.S. parents suffers when they are worried about what their kids are doing after school. ²We need more after school programs. We need after school programs that meet the needs of the 21st century student. What are those needs? What possibilities exist for designing such programs? How can we create programs that are fun, motivational and educational?

"No one believes that when the bell rings at the end of the school day, children stop learning. Curiosity bubbles inside the minds of children from the moment they wake in the morning to when they go to bed at night."³ Our challenge is to encourage, connect, and foster learning throughout a child's day. How do we help children make sense of all the information and experiences in their lives? How do we ensure that all children have opportunities to reach their full potential in a competitive world where thinking skills are the most important asset of a society?

How can we extend the learning throughout the day for all children? Part of our task in collaborating with the steering committee, parents, students and community members will be to work toward designing some programs which will meet these needs. There are many possibilities: internships, various clubs such as photography, gardening, writing, bicycle building, computer repairs, the arts, sports, culinary arts, creating student-run businesses (entrepreneurships), and many more.

Conclusion

We believe that when many parents and educators are introduced to the paradigm of education in the 21st century that it is so foreign to them that they automatically reject it - automatically and angrily! We are attempting to create a huge change in our society. This effort brings to mind about the title of a book "Teaching the Elephant to Dance," by James A. Belasco, Ph.D. It is a book about creating change in organizations (business and industry) in order to cope with the changing world of the 1990's. When we think of the enormous task before us -the image of a "slow, ponderous pachyderm" comes to mind.⁵

Dr. Belasco explains that elephants are trained to stay in one place, through conditioning, with nothing more than a bracelet around one ankle - attached to nothing. However, if the tent catches fire, and the elephant smells the smoke and sees the flames, the conditioned response is overcome and the elephant moves. He recommends that we find a way to get people to smell the smoke and see the flames - without actually burning down the tent. Teaching this elephant to dance is going to be a major endeavor, and it will have to encompass everything from teacher education and administrative education programs at universities to in-service and continuing professional development for educators, to educating everyone else.

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