Curriculum and the 21st Century Learner:

Using Technology to Supplement Core Curriculum

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Author Bio

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Abstract

This paper will examine the ways curriculum is changing to become more in line with 21st century learners. This paper will share a Director of Libraries' thoughts on incorporating technology in order to supplement and enhance district curriculum. The author will examine the importance of information literacy skills, as well as make connections between a progressive curriculum philosophy and technology implementation.

Keywords: curriculum, technology, 21st century learners, information literacy

Introduction

Ask an educator of the 20th century what they might imagine curriculum would look like in the 21st century, and they may have had dreams of flying school buses and maybe one desktop computer per classroom, if they were lucky. The flying school buses may have been a little far-fetched, but technology has proven to be instrumental in the classroom of present day.

Educators in the 21st century are presented with the unique challenge in the 21st century of preparing their students to be citizens of this new world. As Doll Jr. (2009) explains, "curriculum in a post-modern frame needs to be created (self-organized) by the classroom community, not by textbook authors" (p. 271). This is particularly true for the 21st century classroom. Students must be taught how to search for information in new ways, and educators must realize that their roles in the classroom are changing. These issues may not be addressed with the district curriculum, and technology can be a successful supplemental resource to the established curriculum. While many children in the 21st century have grown up surrounded by technology and the Internet, this does not mean that they are necessarily computer or information literate (Bushong & Buff, 2008). Students need to be taught these skills and the importance behind the concept of information literacy.

In this paper, the author will look at how a Director of Libraries uses technology integration to better prepare students to be citizens of the 21st century. This paper will make connections between both traditional and progressive curricular philosophies, and examine an educator's changing role as a curricular specialist. The author will show a

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In this paper, the author will look at how a Director of Libraries uses technology integration to better prepare students to be citizens of the 21st century. This paper will make connections between both traditional and progressive curricular philosophies, and examine an educator's changing role as a curricular specialist. The author will show a

correlation between information literacy skills with a need to incorporate technology throughout current curriculum programs.

<div align="center">**Interview Process**</div>

The majority of educators will claim that their job is one of the busiest around. For this reason, the interview was conducted via email, with several follow-up questions and emails exchanged over a period of time. Both the interviewee and the interviewer preferred to communicate via email. Using email to conduct the interview is an example of how much technology is present and relied on in the educational institution.

Interviewee

The subject of this interview is the Director of Libraries for a school district of over 6,000 students. For the purposes of anonymity in this paper, the interviewee will be referred to as Nancy Jones. Jones first earned a degree in English Education. She also has a Master's of Science in Library Information Systems and a Master's of Science in Administration. Jones has worked as a high school English teacher, and as a librarian in both a high school and a public library. She has been in her current position for twenty years. As Director of Libraries, Jones supervises the Library Media Specialists at all schools in the district and is instrumental in bringing new technology and software programs to the school district. Jones' position reports to the superintendent of the school district, as well as the school board members. More information on Jones' programs, successes, and goals are discussed throughout this paper.

School District Description

Then school district discussed in this paper is in a Midwest town with a population of over 52,000 residents. The district has over 6,000 students, and includes

nine elementary schools, two middle schools, and one high school. There are twelve

library media specialists in the district, with one at each school. Jones works with each

library media specialist, as well as all educators and administration in the school district.

Findings

Defining Curriculum

Before diving into technology and its benefit on curriculum, a definition of

curriculum is required. Curriculum is a broad term and it can be difficult to pinpoint one

specific definition. Marsh & Willis (2007) believe part of that definition can include "an

interrelated set of plans and experiences that a student undertakes under the guidance of

the school" (p. 15). The authors continue to explain that to create a meaningful

curriculum an educator must bring together the combination of subject matter, society

and the individual (Marsh & Willis, 2007). No matter how the term *curriculum* is

defined, there is no doubt it is an incredibly important part of the institution of education.

Jones, for her part, believes in "enabling teachers to teach the variety of students

that they teach" (personal communication, February 23, 2012). In other words, students

come into the classroom with different experiences and it is the mission of teachers to use

their skills to reach each student, no matter what their prior knowledge. This is one of the

challenges facing educators in the 21st century; students have a wide variety of skills and

understanding in the face of new technology. Many students are familiar with using the

Internet to seek out information, however, they may not be aware if the information they

are accessing is accurate or appropriate. Additionally, educators are faced with

curriculum changes on the national level. Currently, both the No Child Left Behind Act

and implementation of the Common Core Standards are forces that must be factored into ideas of curriculum at a district level.

Philosophy

When deciding on a curriculum, one must first realize what philosophy is most closely aligned with what their beliefs. A philosophy proves a framework for issues and determines the goals of education (Ornstein, 2011). This is particularly significant when discussing technology integration, as it can affect every area of the curriculum. While technology use tends to fall into progressive philosophical views, it does not have to be all or nothing; it is important to realize that most schools will combine a variety of philosophies to consider when developing curriculum. While Jones wants to be progressive with her adoption of technology software for schools, she realizes the significance of not "throwing away what works" (personal communication, February 23, 2012). For example, Jones explained the importance of a card catalog in the libraries. While under her direction, the library systems in the district have moved to a web-based card catalog. Jones has made the effort to adjust the card catalog system for current technology needs, but still realizes that it is as necessary to have a way to search for books as it was twenty years ago.

A benefit of integrating technology programs throughout the curriculum is that it allows for a relationship between the subjects taught in a school. Curriculum specialists with a progressive philosophical view believe that "understanding is enhanced when the artificial barriers between disciplines are removed" (Oliva, 2009). The history of curriculum development has shown that core subjects such as math, reading, or science have been a main focus (Marsh & Willis, 2007). Many teachers continue teaching how

they have always taught because they are hesitant to change the way it has always been. As Eisner (2002) summarizes, "What we teach in schools is not always determined by a set of decisions that have entertained alternatives […] subjects now taught are a part of tradition" (p. 105). Teachers can use technology to feel more comfortable presenting 21st century curriculum to students.

Curriculum Implementation

There are many steps involved in implementing curriculum into a district. To begin, it is a good idea to look at the needs of the district. Jones focuses on making sure the library materials she implements match the district curriculum and the 21st century standards (personal communication, February 23, 2012). As Director of Libraries, she can use technology programs that integrate with the curricular standards and curriculum that is already in place for the district. One example of a program that Jones has implemented is Tumble Books, an online reading program. This program allows elementary students the opportunity to read books online, and take quizzes afterwards. Since the program is web-based, it can be accessed by students both at home and at school. It meets state reading standards, such as comprehension and text structures, and works as a supplement to the district reading program.

Glatthorn, Boschee, Whitehead, and Boschee (2012) suggest a vital part of the curriculum implementation process is creating a committee to research and study the new curriculum choices. Jones agrees, and has a small committee of school media specialists investigate what works before she presents a proposal to her supervisor (personal communication, February 23, 2012). She encourages the committee to keep a broad perspective and global approach to choosing technology programs that work (Jones,

personal communication, February 23, 2012). A method for selecting the committee

should allow for small-group discussion, articulation of views, and data that can inform

decisions (Glatthorn, et al., 2012).

21st Century Application

Educators must be ready to use their knowledge of curriculum to prepare their

students to be 21st century citizens. Part of being a progressive educator is to provide

students with experiences necessary to help them succeed in the real world (Dewey,

1938). Dewey (1938) explains that students must "understand the *significance* of what

they see, hear, and touch" (p. 68). It is important for educators to realize, however, that

they should not use technology just for the sake of using it; technology use must be

meaningful and supportive of the established core curriculum. Understanding that

"technology integration is having the curriculum drive technology usage, not having

technology drive the curriculum" will help educators remember that technology should

be used to enhance the curriculum (Dockstader, 1999, p. 74).

The 21st century presents challenges to the educator because teachers are dealing

with the necessity of keeping up with new technology trends. As Jones recalls, her

position has changed greatly as the technology and curriculum have changed. Now, the

library system and its curriculum are closely tied to the computer rather than paper

(Jones, personal communication, February 23, 2012). She is always thinking and

researching to make sure new technology programs and software will work with the

systems and curriculums already in place. In the classroom, as well, educators must be

able to sort through and decide what works and what doesn't. There can be an

overwhelming amount of resources available and users must be able to verify whether

information is accurate and reliable (Burke, 2010). One way to do this is teaching both students and educators how to look for publishing information on the website they are accessing.

Information Literacy

Jones stresses the importance of teaching students, as well, how to differentiate between appropriate sources. She explains, "I really believe in information literacy. Students and teachers know how to Google, but do they know that the site they found is appropriate, accurate, and current?" (Jones, personal communication, February 23, 2012). While teaching information literacy skills may not be part of the explicit curriculum, schools often teach more than the prescribed curriculum, anyway. This is considered implicit curriculum, which is the curriculum taught in schools sometimes without realizing it (Eisner, 2002). As with other forms of technology, information literacy skills can be embedded into the core curriculum and used in conjunction with the established curriculum. Information literacy skills should be included in every part of the curriculum with every subject. Searching competently is another form of literacy, just like learning any other subject (Bergson-Michelson, 2012).

Jones's school district uses guidelines to direct educators as to an appropriate curriculum for information literacy. These guidelines are as follows:

1. Defining the need for information.

2. Initiating the search strategy.

3.   Locating the resources.

4. Assessing the information and comprehending the information.

5. Interpreting the information.

6. Communicating the information.

7. Evaluating the product and the process ("In the News").

Jones can use these guidelines to assist educators in teaching students the importance of information literacy skills. Having the ability to locate, assess, and interpret information and resources is a skill that students will transfer into the real world. As Olivia (2009) explains, "Whatever is taught in school should in some way possess transfer value, that is, learning in school should have applicability in either a broad or narrow sense outside of school and after school years" (p. 434). Curriculum, both implicit and explicit, must be relevant and have transferability in order for students to be successful in the 21st century.

Teachers as Curricular Specialists

As views of curriculum have shifted from traditional to progressive, so has the view of what a teacher's role ought to be in the classroom. Traditionally, a teacher was "an agent through which knowledge and skills are communicated and rules of conduct enforced" (Dewey, 1938, p. 18). In other words, a teacher would traditionally stand at the front of the room and teach while the students listened. In today's progressive educational world, teachers can step back and let their students take charge of the learning. One way Jones has attempted to accomplish this in her district is with the Summer Institute. As she explains, "We had a Summer Institute where teachers created technology projects for their class. We had instructors to help with this implementation. It was very successful" (Jones, personal communication, February 12, 2012). Program like the Summer Institute place curriculum decisions into the hands of teachers.

Educators have the ability to use these technology projects to enhance the curriculum as they see fit.

Technology Tools

Jones works with her school district to implement technology software programs and purchase subscriptions for programs to enhance the curriculum. One example of this is the United Streaming website. United Streaming is a site run by Discovery Education that acts as a curricular supplement. United Streaming, Jones remarks, allows teachers to mix audio-visual materials and book support to their teaching (personal communication, February 23, 2012). A subscription for a program such as United Streaming gives teachers the power to implement and create curriculum in their classroom, rather than forcing teacher to rely completely on district provided curriculum. This progressive way of thinking comes a long way from the Curriculum Reform Movement, which, as a result of the post-Sputnik era, adopted "teacher-proof curriculum packages" (Marsh & Willis, 2007, p. 55). Forcing teachers to teach with these tightly controlled curriculums, which can be as extreme a specific script for teachers to read from, takes away from the meaningful learning and educating that should take place in a classroom. When teachers are required to use pre-specified and word-for-word instruction, it can lead to "a loss of control and a separation of conception from execution" (Apple, 2009, p. 199).

<center>**Conclusion**</center>

Jones, Director of Libraries for a large public school district, is a proponent of using technology as a valuable tool for supplementing core curriculum, and for helping prepare students to be successful learners in the 21st century. This is evidenced by her proactive approach at bringing in new programs and methods of curriculum adoption to

her district. As noted earlier, Jones has seen the curriculum change throughout her years

as an educator, and feel strongly about providing students the skills necessary to make it

in the real world.

Focusing on teaching students information literacy skills is an important tool in

preparing them for the future. As Dewey says,

> [The progressive educator] must be aware of the potentialities for leading students
>
> into new fields which belong to experiences already had, and must use this
>
> knowledge as his criterion for selection and arrangement of the conditions that
>
> influence their present experience (1938, p. 76).

By practicing a progressive philosophy and recognizing teachers as the curricular

specialists they are, schools can successfully include curriculum appropriate for the 21st

century.

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