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Send out your light and your truth! Let them guide me. Psalm 43:3

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The Emergent Use of Online Learning in Secondary Education:
A Preliminary Review of the Literature

Technology has become a fixture in American schools and classrooms. As technological advancements continue to evolve at a high rate of speed, the creation of online learning allows secondary students to take courses beyond the classroom walls. They are able to share, learn, and collaborate with others in their hometown and throughout the world. Moreover, they are even able in some cases to meet successfully graduation requirements through an online education. Is this the future of American secondary school education? Should it be?

The Emergence of Online Education in United States Secondary Schools

Although today only a very small portion of the U.S. secondary student population is taking online courses, the interest and attention to online learning is increasing. As of June 2006, twenty-four states had state wide online learning programs and half of all school districts offer online course work, an increase of 30% from the previous two years. In 2000, approximately 40,000 secondary students were taking online courses, which increased to a half million in the 2005-06 academic year (Berman, Lowes & Scribner, 2007).

However, as online courses gain popularity and interest, concerns and questions are being raised. Is the course of sufficient quality? Are teachers properly qualified? Are there assessments that align with state standards? What issues are necessary for Christian secondary schools to consider in the face of online learning? Is this a brand of learning that might be implemented as a Christian parent home schools their secondary school children? Further, will technology and online learning transform schools as we know them today? Will schools only be for social activities and will education will take place at any time and any place, eliminating schedules,

facilitates and classrooms? We ask with Jukes, Kelly & McCain (2008, p.24), "should we no longer have 'cookie cutter classrooms' and instead have schools as resource centers while students learn anyplace or anytime?"

This preliminary review of literature gives an overview of where online learning is today and analyzes where it may lead. In addition, a brief historical view of online learning for secondary education, advantages and challenges of online learning will be considered. Finally, the authors make recommendations for the implementation of online learning with special reference its implementation for Christian secondary schools and home schooling.

A Brief History View of Online Learning in Secondary Education

Online learning has been around for over a decade, primary in colleges where over ninety percent offer online courses. But as early as 1996, the United States Department of Education (USDOE) funded a project to start a virtual high school (Berman & Pape, 2001). Online learning in secondary schools serves a small fraction of the US student population. At the K-12 grade level, of the 48 million K-12 grade students in the US, only 700,000 in 2005-06 enrolled in an online course. However this "is almost double the estimate of students taking online learning courses just three years earlier, and it's a number that is likely to continue to rise rapidly" (Tucker, 2007, p. 1).

Reasonable objections present challenges for the advancement of increased online learning in American high schools. Kleinsmith (1997) urges that technology be a requirement for all students to prepare them for the 21st century. However, logistical and practical questions surface, such as how will educators find the time to incorporate technology?; how are non-users of technology going to learn?; where will the funding come from?; and what can technology do that teachers are not already doing? In addition to questions about the teachers, the author

questioned if the cost was justifiable, if the community would support it, and if it would be a good investment or whether the money should be spent to do other things.

Russo (2001) wonders about the effectiveness and accountability of online courses. He questions whether online courses were appropriate for all students, whether they were worth the time and money, and whether they were equitable to all students as far as support and technology access. And Russo posits, with others, that technology is only second best to face-to-face learning, fearing that the lack of human interaction, low completion rates, and limited data on effectiveness on this new form of learning were problems.

Further, Fledman (2001) explains that "access to and use of technology has become ever more critical for students and teachers in a standards-based environment" (p. 1). There is concern with the 'digital divide': those that have access and those that do not. Also, legitimate concerns are raised about how teachers are prepared and encouraged to implement technology.

As secondary schools are adopting online courses to expand their offerings, the National Education Association (NEA) recognizes both the potential and the concerns. In 2002, a policy was issued supporting distance education but cautioning that it also must be equitable and that students must receive support that will allow them to operate effectively in this environment (Tucker, 2007).

Types of Online Learning in Secondary Education

What types of online learning are emerging in secondary schools? Online learning is also known as e-learning, cyber learning, virtual learning, e-education, distance education (Russo, 2001). There are no clearly defined differences among them, and new names continue to emerge for a slightly different view. For example, a school in Pennsylvania began implementing 'virditional' courses. The school "has coined a unique term for courses they offer that are

delivered entirely online but scheduled as a regular class would be and executed using school resources" (Pape, 2006, p. 5).

There are variations of online courses. One method is the delivery of an independent online course for a student in their home. Typically this is an Advanced Placement course, a foreign language course or another course that is not available face-to-face at a school. The course often costs money to the school or student and can be taken at any time or any place with little or no supervision by a teacher other than a teacher or person that perhaps communicates with the student via the Internet. Courses are offered or developed in-house and require the student to meet the course requirements either within a structured amount of time or at their own pace.

Another type of online learning is a teacher offering a course simultaneously to students who live in different locations (Henke-Greenwood, 2008). This type of learning is becoming less popular because students must be participating in the activity at the same time and it sometimes requires an extensive video communications system. Once viewed as the 'state-of-technology," it is apparently becoming less attractive because of its inflexibility.

The model that appears to receive the most attention today is a hybrid or 'blended model' that combines online learning with face-to-face. Flowers (2001) found that "a majority preferred a mixture of independent and group learning" (p. 6). Research has shown that a combination of face-to-face with online instruction is more effective than online alone (Henke-Greenwood, 2008; Serim, 2007).

Advantages of Online Learning in Secondary Education

Advantages of online learning in secondary education for students and teachers, and in relation to its logistical elements are worth considering.

Advantages of Online Learning for Students

The advantages of online learning for secondary students include, but are not limited to, opportunities for providing self-paced learning, extra help, providing alternatives, a global awareness, and positive effects on the brain.

First, online courses can provide students with the opportunity to work at their own pace. Some schools have emphasized this as an attractive feature and stressed that it is helpful for students that are either low or high achievers. Florida Virtual Schools, one of the oldest proponents of such education, emphasizes allowing students to go at their own pace, especially for advanced placement courses and for high-risk dropouts (Tucker, 2007). LaFee (2001) found that "students who are in the mid- to lower-third of achievement tend to do well with this technology if they are motivated because distance learning gives them more time" (p. 3). Further, in a survey, students were asked why they might take an online course. The results indicated that the second highest response was to work at their own pace (Pape, 2006).

Second, students can use online learning for extra help. In a technology survey, parents were asked why they would want their child to take an online course. Out of ten choices, the top choice was for extra help in a subject (Henke-Greeenwood, 2008).

Third, online learning can also provide students with choices other then traditional school setting. Livingston (2008) contends that schools need to provide alternatives to the regular school and give students opportunities to make personal choices.

Fourth, online learning provides opportunities for students to enhance their global awareness. Patton (2008) submits distance learning can help in learning foreign languages but also in allowing students to learn from those in other parts of the world. By providing global activities within a blended approach, distance learning ensures that students "will have the

opportunity to develop global citizenship skills, gaining an appreciation for cultural and geographic differences" (Pape, 2006, p. 5). Students have the opportunity to interact and network with others throughout the country and world (Berman, 1999).

Finally, online learning can also affect the brain and can increase intelligence. When Sturgeon (2008) referred to the 21st century classroom, he states, "certain types of stimulation not only change the chemistry of the brain but also can actually increase brain cells and dramatically boost intelligence" (p. 39). However, in time, this may change as scientists study to see if "daily exposure to digital technologies such as the Internet and smart phones can alter how the brain works" ("Scientists Ask," 2008, p. 1).

Advantages of Online Learning for Teachers

In addition to online learning being advantageous to students, there are also advantages for teachers.

First, Sturgeon (2008) advances the notion that teaching technology, including online learning, improves the teacher's technology skills and instructional skills and assists teachers in making connections to others around the world. A study on online learning showed that when teachers were "asked if the technology enhanced learning," three of four agreed and 58% specify enhanced engagement in learning (Henke-Greenwood, 2008, p. 7).

Second, Sturgeon (2008) also believes that teachers may remain in education longer if different ways of teaching are provided. Technology gives teachers a chance to change their perspective on teaching, expands their world knowledge, and provides them with opportunities to implement new ideas and activities.

Logistical Advantages of Online Learning for Secondary Education

Many of the further advantages of online learning involve logistics. The logistics of online learning relate to location, flexibility, parent involvement, home schooling, class time, offerings, and cost.

First, having the flexibility to participate in online learning at any time may be one of the most appealing advantages. Students that not only enroll in full-time virtual schools but those that enroll in programs beyond their school day can take advantage of participating in online learning at any time of the day, including during the summers and weekends or after school. At the post-secondary level, not having to spend the time traveling to a school was the most attractive feature of online learning, as online learning can be taken any place (Flowers, 2001). This also applies to secondary students that live in rural areas or that have to spend an enormous amount of time on a bus to get to school. Florida Virtual School utilizes their online learning often for after-school learning (Tucker, 2007). At Brattleboro High School in Vermont, students partnered with a school in China. The students meet twice a week face-to-face with an instructor, and the remaining time is online after school. This allows an extension not only of the school day but also of the school year and enables more classroom-type activities to occur outside of the classroom walls (Pape, 2006).

Second, online learning can increase parent involvement. Through online learning at the secondary level, parents can monitor their child's learning and be kept informed about their child. This gets parents involved in their child's learning (Pape, 2006). This would include students who are being home-schooled and that may be homebound due to illness (Livingston, 2008) and disasters, such as Hurricane Katrina.

Third, another logistical advantage to online learning is that students have the ability to take a course that otherwise would not have been offered (Berman, 1999). Henke Greenwood,

(2008) showed that when students were "asked the reasons why they might take an online course," the most-offered response for 9-12 graders (47%) was to take a course that was not offered at their school (p. 4).

Fourth, when comparing the cost of school construction and operation, the cost of online learning is an advantage. Virtual schools, upon enrollment provide students with a computer, printer, and internet access. Even including the costs of equipment, the overall the cost of online learning is affordable (Sturgeon, 2008).

Fifth, there are several advantages for the use of online learning in secondary education for Christian contexts as well. Christian secondary schools can supplement their curriculum by the addition of such courses. Christian parents who home school their children also have the chance to be involved by the format inherent in online education.

Challenges of Online Learning in Secondary Education

While there are numerous advantages to online learning, there are also challenges. These concerns address primarily three elements: students, teachers, and the delivery of instruction.

Challenges of Online Learning for Secondary Students

For the student, online learning may appear to be successful mainly for students that are committed to learning, can work independently, and can deal with a lack of socialization.

One study found "no significant difference in student performance in online courses versus traditional face-to-face learning" (Tucker, 2007, p. 1). Students that have certain characteristics are more likely to be the most successful with online learning in certain areas. The student that is responsible, mature, and motivated in completing an online course appears to perform better than in face-to-face education on exams and homework assignments. Jackman &

Swan conclude (2000, p. 59) that "distance learners are at a disadvantage in their learning experience, especially in the evaluation of their cognitive performance."

Students may have to be independent learners in order to be successful. Livingston (2008) states that students that have only prior experience in a traditional classroom may or may not find it difficult with a new online format and they may have to work at a different pace. The challenge becomes making "continuous connections" for those that find it difficult to be an independent learner. In order to become an independent learner, students may need to be taught how to self-regulate and set goals.

Cooper, Horn, & Strahan (2005) describe a study of seven high school English teachers that promoted goal-setting and self-regulation in their classes by providing challenging activities and providing the skill of setting and meeting goals and teaching students how to self-regulate. In return, students became more responsible and enthusiastic, asked more questions, set goals and had better perceptions about their own learnings. This type of instruction may be needed to promote independent learners so that they can master online learning.

The lack of socialization appears to be a major concern for online learning, particularly for those students that enroll full-time in a virtual education school. A needs assessment survey that studied the perceived needs of potential students found the least attractive element of online learning is a lack of human interaction (Flowers, 2001).

Like independent learners, educators may need to educate students about social networking in order to be successful with online learning, especially in Second-life, a 3-D virtual world where one creates himself as an avatar that communicates with other avatars in another life. "In a recent report, Creating and Connecting: Research and Guidelines on Online Social and Educational Networking, the National School Boards Association recommends that school

districts take a proactive approach to educating students about social networking. They suggest that educators who have spent time collaborating within a virtual world are better equipped to explore this issue with students" (Dembo, 2008, pp. 51-52).

Challenges of Online Learning for Secondary Teachers

There are challenges for the educator who teaches online: teaching to students that the educator does not meet face-to-face and only through words is very different from traditional teaching, which "pose a different set of challenges" (Brown & Corkill, 2004, p. 3), including too many texts, a lack of engagement, and a feeling of isolation (Berman, 1999). Teaching online "requires educators to develop new skills in instructional strategies, methods of teaching, timing, teacher/student interaction, feed-back, printed supplemental materials and evaluation" (Jackman & Swan, 2000, p. 58). Teachers need continuously to ask themselves questions and learn the most effective ways to teach online. Questions need to be asked, such as how can you teach without personal communication? Are the instructions clear enough? How do you know the students are confused? How do you get students to participate? How do you know if the students are learning? Practices shown to address these challenges implement higher order thinking skills. These practices include extremely clear directions, focusing on the essential learning, and developing meaningful assessments which emphasize independent learning, and incorporating engaging activities in weekly meaningful assignments (Berman, Lowes & Scribner, 2007).

Challenges of Online Learning for Secondary Schools

Although the cost of online learning is an advantage, especially when compared to school construction and operations, current regulations may make it costly to the districts that the student resides in. Reeves (2001) explained that in the state of Pennsylvania, the money always follows the student. The author describes the disappointment of Administrator Doluisio, as his

school district is being charged $6,000 per student who has chosen to enroll in a cyber school rather than attend the regular public school.

While there were only 173 virtual schools in 2007 (Tucker, 2007), fund distribution will continue to be an issue as the funds are supposed to go to operate the public school system are lost to virtual schools. “It isn’t competition; rather, Doluisio has labeled the underwriting of his state’s new wave of cyber schools an ‘unfunded mandate’ ” (Reeves, 2001, p. 1). The administrator is further concerned that fact that the school has no control of what specific online program in which a student may be enrolling, and therefore cannot be assured of the quality, teacher qualifications, student’s attendance, or curriculum content.

Cyber-schools further are blamed for consuming public funds, providing a lack of socialization for students, using parents as teachers and problems transferring credits (Henke-Greenwood, 2008; Tucker, 2007). This is understandable because of the lack of government oversight and accountability. “Even basic statistics on student performance and course enrollments in virtual schools are difficult to obtain” (Tucker, 2007, p. 6). Education policy makers are in the process of making recommendations that cyber schools ensure course quality, invest in research and development of new ways to assess and teach courses, obtain federal funds to investigate new technologies to improve courses, create models of success, use highly qualified teachers ,and partner with other reform efforts. The bottom line is that “There are wide variances in the quality of K-12 virtual programs from very poorly developed with limited personal attention to those that are of quality therefore caution needs to take place in order to ensure the best quality program” (Tucker, 2007, p. 6).

Recommendations for Online Learning in Secondary Schools

Several recommendations are worth considering for secondary school teachers and administrators when implementing or developing online learning courses.

Recommendations for Teachers

First, choose courses which greatly engage the student through project-based learning. According to Berman & Pape (2001), the best online courses for adolescents are ones which require participation and thoughtful responses. Engagement is defined as being fully involved in their minds, hearts and bodies through curiosity, interest, and enjoyment. In online courses when project-based learning provides student engagement, research indicates correlation with high levels of achievement and improved attendance (Jablon & Wilkinson, 2006).

Second, it is also recommended that teachers take courses to learn how to teach online. Livingston (2008) suggests that teachers become certified by an online program such as a 40-hour online course such as Cool-Certification.

Third, important practical course management tips are offered. Brown & Corkill (2004) recommend that (1) the course content, class instructions, and expectations should be well organized, clearly stated, interactive, related to past experiences and measurable; (2) the online course culture should be welcoming and comforting; (3) there should be constant and constructive feedback provided on a regular basis; and that (4) online instructional methods should include team work, direct links to sites, time to provide feedback and reflect.

Fourth, the best strategy to affect a learner's motivation and a key for effective learning is to provide feedback that convinces students that they can do it (Angulo, 2001; McCabe, 2006). Students should also be given reasons why they may be taking an online course.

Fifth, Kuhn (2007) explains that students need to develop awareness that school is a connection between themselves and adult life. This is a perfect opportunity to teach students why

learning on an online course may be important for their future lives in lifelong learning opportunities.

Sixth, effective assessment of students is also very important. Teachers need to have clearly stated evaluatory measures that must be made known prior to the start of the course (Berman, & Pape, 2001). O'Connor & McTighe (2005) explain why assessment is important while providing strategies that will improve student learning and teaching. Stiggins (2007) urges that teachers be aware of the importance of the meaning of assessments to the students, how assessments are affecting students and use assessment to promote learning. Recommendations such as these are important for teachers to consider not only for face-to-face instruction but may be even more important for online learning.

Recommendations for Administrators

First, administrators must ensure the courses will be facilitated by qualified instructors who understand the differences from face-to-face teaching. In addition, there should be verification that online courses offered meet state standards and graduation requirements (Berman & Pape, 2001).

Second, as technology evolves, it is recommended that administrators work toward making the school technology friendly, and encourage teachers to utilize technology and online learning (Kleinsmith, 1997).

Third, administrators should evaluate their technology to ensure the focus is on learning and not technology issues. Clear and effective policies and practices need to be in place to avoid legal problems and other issues (Berman & Pape, 2001).

Fourth, administrators are also encouraged to include students in developing a technology plan especially when implementing online learning (Harper & Martinez, 2008). There are

numerous reasons to include students in planning the technology. Students are able to share different viewpoints and ideas, they are able to assist and provide technical support to teachers in the classroom, and they are can help staff implement technology. The authors state, "as students share their knowledge and enthusiasm for technology with adult educators, they come to know real human beings who are striving to make the world a better place" (Harper & Martinez, 2008 p. 69).

Fifth, Sturgeon (2008) recommends that when developing an online education plan for secondary education, administrators should keep two goals in mind: connectivity and effectiveness. Connectivity is staying connected with students (lessons, homework, announcements, and chat rooms), staff (announcements, share resources and discussion boards) and parents (attendance, grades, homework, announcements). Strive to connect school, home, and the community. Effectiveness is the second goal. Implement a replacement, upgrade, and maintenance plan for equipment and provide professional development opportunities and technological assistance to staff.

Sixth, Serim (2007) suggests that administrators develop comprehensive policies for the school. Policies for online learning opportunities should include information on costs and benefits, quality and equity, funding sources, accountability, assessment, state or district planning, coordination, support, evaluation, teacher certification, professional development, constructivist teaching practice, and best practices. Administrators and teachers can now take advantage of the National American Council for Online Learning (NACOL), which used research and surveys to develop standards for quality K-12 online courses to ensure consistency and validity and to use as guidelines for online teaching (NACOL, 2008).

The Future of Online Learning in Secondary Education

There are indications that online learning will continue to move forward. There are some who even believe that online learning and other technology advancements are rapidly moving towards a radical transformation of the school system. LaFee (2001) projects that online learning will transform schools to become places to learn only social skills and teachers will become facilitators to learning. He believes that students should take the initiative to learn for themselves and by themselves.

Richardson (cited in Dembo, 2008) states that "Until we are able in some systemic way to re-envision teaching and schooling to embrace the potentials of anytime, anywhere learning, we're going to have a very difficult time understanding how to leverage the possibilities" (p. 49). The author describes virtual worlds for education where students can take a tour through Rome and go through parts of the body to learn the body systems. One of the most imaginative illustrations of a transformation of the school system is Second Life (SL) or a 3-D internet based virtual world. This 3-D world, created by Linde Lab, currently has two versions, one for 18 years and older and one for 13 to 18 year olds. A person logs on and creates an avatar, an image that represents them. Huge corporate companies are getting involved in creating this virtual world where people are being able to do almost everything imaginable at a computer screen. Disney, for another example, has a virtual world that gives young students opportunities to play and learn with other children around the world. It would appear the virtual world will continue to evolve, and adolescents seem fascinated by the possibilities. But the question is, will administrators and school boards and teachers and parents incorporate its potential in the school curriculum?

There are visions not only of changes in the delivery of instruction but also of what the physical school will become. Jukes, Kelly & McCain (2008) believe that digital technology has already transformed how students learn and act. This transformation, they advance, has created

five major shifts: (1) a focus from content and knowledge skills to higher order thinking skills, (2) an embrace of new digital reality, (3) a change in student's thinking patterns, (4) broader ways to assess learning, and (5) an increase of connections from what schools are asking them to do. They contend schools must offer more choices to reflect the new digital student and that parents and students will expect customized and personalized education choices. The result, they deduce, will lead to the transformation of the physical school.

It is largely arguable that schools today have been based on the industrial-aged, one-size-fits-all high school that works best for homogeneous groups that are white and affluent. Alternatively, Jukes, Kelly & McCain (2008) provide ten teaching models that have different schedules, structure, instruction time, learning styles and technology, such as academies that focus on careers. Another is the academically focused school where students focus only on college and dual credit. The students attend for twelve months, nine hours a day, with no extra curricular activities and graduate at the eleventh grade. An additional model is a self-directed school where most of the work takes place at the home and the physical school is used only for small group discussions and research and to meet with their advisor and mentor. There are no courses to complete but instead competencies to be accomplished. They predict an entirely new mode of communication between teacher and student, and that it will radically alter the way secondary students relate to, learn, obtain, and use technology.

Technology has expanded in other areas that may impact who participates in online learning, particularly special needs students. Schachter (2008) describes a school for the deaf and how technology has helped them move to a level where they can be employed. Computers convert screen text into Braille. Optical scanners recognize letters and read them aloud. The available readings are endless, ranging from current events to books. Interactive whiteboards

have become a key to convert material to visual information. In “Tech & Learning” (Wieser, 2008), a host of technology products are advertised for special needs students. Products address aural problems, poor handwriting, physical or cognitive typing challenges, computer access for physically impaired students, reading and writing, autism, difficulty communicating, and homebound students. The assessments include ePortfolios, iTunes, RTI process and comprehensive courseware. At the same time, the use of special devices such as mp3 players and iPods as instructional tools for oral communications is being questioned. We wonder with Dyck (2007), will it make learning more relevant to the new aged learner? Will reading skills decrease or will it be an aid to reach even more students?

Conclusion

Online learning has become an important consideration and alternative in secondary education. There are some compelling factors worth consideration that may impact the future of high schools. These factors include advancements in virtual technology, increasing mandates and oversight to ensure quality online programs, and expanding best practices to ensure that all students have equal access and the opportunity to participate in online learning. In addition, a key factor may become the increased cost of public education while meeting the needs of the diverse digital-aged student while providing choices.

While advances like these may make administrators, communities, teachers, even students wary, the inevitable charge of modern technology intrudes and propels our lives in multifaceted ways. It is unlikely the means by which we educate ourselves will escape this influence.

References

Scientists Ask "Is Technology Rewiring Our Brains?" (2008, December 3). *Education Week*. Retrieved on December 4, 2008 from http://www.edweek.org/ew/articles/2008/12/03/204538nsciusdigitalbrain_ap.html.

Angulo, M. (2001). Leveraging Learning for Generation I. Retrieved on November 20, 2008 from http://www.aasa.org/publications/saarticledetail.cfm?ItemNumber=3780.

Berman, S. (1999, April). The Reality of Virtual Learning. Retrieved on November 20, 2008 from http://www.aasa.org/publications/saarticledetail.cfm?ItemNumber=3395

Berman, S. & Pape, E. (2001, October) A Consumer's Guide to Online Courses. *The School Administrator*. Retrieved on November 26, 2008 from http://www.aasa.org/publications/sarticledetail.cfm?ItemNumber=3279.

Berman, S., Lowes, S. & Scribner, D. (2007, March 4). Online Education's Role in the Schools of Tomorrow from Virtual High School Global Consortium. Retreived on October 21, 2008 from http://aasa.org/publications/cdarticlededtail.cfm?ItemNumber=8532.

Brown, W. & Corkill, M. (2004). The Practice of Virtual Teaching. Retrieved on November 20, 2008 from http://www.aasa.org/publications/saarticledetail.cfm?ItemNumber=1440.

Colby, S. & Wilson Smith, T. (2007) *Teaching for Deep Learning*. In K. Cauley & G. Pannozzo, *Educational Psychology* (pp. 110 - 115). New York: McGraw Hill.

Cooper, J., Horn, S., & Strahan, D. (2005) "If Only They Would Do Their Homework". In K. Cauley & G. Pannozzo, Educational Psychology (pp. 151-161). New York: McGraw Hill.

Cranmer, B., Dahms, R. Taddler, R. & Winters, T. (2008, May/June). Technology Today. *EDTECHMAG Com*, 44-48.

Dembo, S. (2008, October). Virtual Works of Educators. *District Administration.* 48-52.

Dyck, B. (2007). Brenda's Blog. Retrieved on October 23, 2008 from http://www.education-world.com/a-tech/columnists/dyck/cyck011.shtml.

Fledman, S. (2001, March). The Have and Have Nots of the Digital Divide. *The School Administrator*. Retrieved on November 26, 2008 from http://www.aasa.org/publications/sarticledetail.cfm?ItemNumber=3781.

Fleischman, S. and Silver-Pacuilla H. (2006). Technology to Help Struggling Students. In K. Cauley & G. Pannozzo, *Educational Psychology* (pp. 58-59). New York: McGraw Hill.

Flowers, J. (2001, Fall). Online Learning Needs in Technology Education. *Journal of Technology Education, 13*(1). Retrieved on October 23, 2008 from http://scholar.lib.vt.edu/ejournals/JTE/v13n1/flowers.html.

Harper, D. & Martinez, S. (2008, November). Working with Tech-Savy Kids. *Educational Leadership*, 64-69.

Henke-Greeenwood, K. (2008). Learning in the 21st Century: A National Report of Online Learning. Reported by Project Tomorrow and Blackboard. Retrieved on December 4, 2008 from http://www.blackboard.com/inpractice/k12/onlinelearningreport.

Jablon, J. and Wilkinson, M. (2006). Using Engagement Strategies to Facilitate Children's Learning and Success. In K. Cauley & G. Pannozzo, *Educational Psychology* (pp. 128 - 131). New York: McGraw Hill.

Jackman, H. & Swan, M. (2000). Comparing the Success of Students Enrolled in Distance Education Courses vs. Face-to-Face Classrooms. Retrieved on November 5, 2008 from http://scholar.lib.vt.edu/ejournals/JOTS/Winter-Spring-2000/pdf/swan.pdf.

Jukes, I, Kelly, F. & McCain, T. (2008, November). *Teaching the Digital Generation.* Interview by N. Sellers, The Audio Journal's Executive Briefing for Nov. 2008, Vol 17:3.

Kleinsmith, S. (1997, April). Technology in the Schools, So What? *The School Administrator*. Retrieved on November 26, 2008 from http://www.aasa.org/publications/saarticledetail.cfm?ItemNumber=4793.

Kurhsan, B. and Sherman, T. (2005). *Constructing Learning*. In K. Cauley & G. Pannozzo, *Educational Psychology* (pp. 103 - 106) New York:McGraw Hill.

Kuhn, D. (2007). *How to Produce a High-Achieving Child*. In K. Cauley & G. Pannozzo, Educational Psychology (pp. 146-150). New York: McGraw Hill.

LaFee, S. (2001, Oct.). Beyond the Internet. *The School Administrator*. Retrieved on November 26, 2008 from http://www.aasa.org/publications/sarticledetail.cfm?ItemNumber=3296.

Livingston, P. (2008, May 22). E-Learning, Gets Real. Retrieved on October 21, 2008 from www.techlearning.com http://www.techlearning.com/story/showArticle.php?articleID=196605231.

North American Council for Online Learning. (2008). National Standards of Quality for Online Courses. Retrieved on Dec. 4, 2008 from http://www.nacol.org/nationalstandards/.

McCabe, P. (2006). *Convincing Students They Can Learn to Read*. In K. Cauley & G. Pannozzo, *Educational Psychology* (pp. 134-140). New York: McGraw Hill.

Monmouth-Ocean Educational Services Commission. (n.d.) flyer on NJ Virtual School. www.njvs.org.

O'Connor, K. & McTighe, J. (2005). *Seven Practices for Effective Learning*. In K. Cauley & G. Pannozzo, *Educational Psychology* (pp. 209-214). New York:McGraw Hill.

Pape, L. (2006, August). From Bricks and Clicks: Blurring Classroom/Cyber Lines. *The School Administrator.* Retrieved on November 26, 2008 from http://www.aasa.org/publications/sarticledetail.cfm?ItemNumber=3279.

Patton, C. (2008, May/June). Worldly Pursuits. *EDTECHMAG.com*, 33-34.

Poole, B. (2006). What Every Teacher Should Know About Technology. Retrieved on October 23, 2008 from http://www.education-world.com/a_tech/columnists/poole/poole015.shtml.

Reeves, K. (2001, Oct.). Cyber Schools: Friends or Foe? *The School Administrator.* Retrieved on November 26, 2008 from http://www.aasa.org/publications/sarticledetail.cfm?ItemNumber=3279.

Richardson, W. (2008, Dec). Collaboration Generation: World Without Walls. *EDUTOPIA*, 36-38.

Russo, A. (2001, Oct.). E-Learning Everywhere. *The School Administrator.* Retrieved on November 26, 2008 from http://www.aasa.org/publications/saarticledetail.cfm?ItemNumber=3278.

Schachter, R. (2008, May/June). Changing Habits. *EDTECHMAG.com*, 26-27.

Schachter, R. (2008, May/June). Taking Charge. *EDTECHMAG.com*, 14-15.

Serim, F. (2007, September/October). The New Gold Rush. *Learning & Learning with Technology*, 12-16.

Stiggins, R. (2007). *Assessment Through the Student's Eyes*. In K. Cauley & G. Pannozzo, *Educational Psychology* (pp. 199-202). New York: McGraw Hill.

Sturgeon, J. (2008, November/December). Why 21st Century? Four reasons schools should reinvent their classroom this year. *EDTECHMAG.com*, 39-40.

Sturgeon, J. (2008, May/June). Staying Connected. *EDTECHMAG.com*, 60-62.

Trotter, A. (2008, July 2). Ed. Department Releases Guide for Evaluating Online Learning. Retrieved on December 4, 2008 from http://www.edweek.org.

Tucker, B (2007, June). Laboratories of Reform: Virtual High schools and Innovation in Public Education. *Education Sector Reports.* Retrieved on Dec. 4, 2008 from http://www.nea.org/technology/onlinelearning.html.

Zirkle, C. (2004). Distance Education Programming Barriers in Career and Technical Education in Ohio. *Journal of Vocational Education Research*, *29*(1). Retrieved on October 23, 2008, from http://scholar.lib.vt.edu/ejournals/JVER/v29n3/zirkle.html.