

Learning Online in Grades K-12: A Review of the Literature

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Living in the twenty-first century is fast paced and ever changing. Our technology is improving and growing at a rapid pace. Many times it is difficult to learn one piece of technology before a replacement comes along. With changing technology comes changes in our everyday lives. We communicate, learn, and function much differently than we did just ten years ago. As our lifestyles change, so does our education. Online learning was once thought to be for upper levels of education. Today, there are thousands of schools across the United States that incorporate online learning for K-12. As this newer style of learning is growing every year, there are many questions to be answered about what K-12 online learning is all about.

New teachers may be interested in K-12 online learning as it could potentially affect their careers in the near future. For those who would like to become teachers, they will want to know more about online learning and how they can be teachers at virtual schools. Parents may want to know more about online learning, as it may be something their child would like or need. Parents will also want to know if online learning is as effective as traditional schooling. There are many questions and many ways to look at K-12 online learning.

Method and Search Procedures

The goal of this literature review is to analyze the research available to answer the many questions that parents, teachers and students may have about online learning. Fifteen peer reviewed articles from ProQuest and ERIC databases were used with a search range between the year 2000 and 2012. Only articles pertaining to K-12 online learning and/or virtual schools were used. This review focuses on a limited amount of current literature of Online Learning. The following keywords were used in the search: "K-12

online learning,” “online learning in K-12,” “K-12 virtual schools” and “online learning for middle school.” After articles were gathered from GALILEO, only articles that answered the following questions were used: (a) how effective is K-12 online education, (b) what are the advantages and disadvantages of K-12 online education, (c) what kinds of students will benefit from K-12 online education, and (d) will K-12 online education affect educator jobs?

Online learning is a form of distance learning that is not new to our country. Distance learning began in the 1700s with clergymen acquiring their training through correspondence (Adams & Olszewski-Kubilius, 2007 as cited in Corwith & Olszewski-Kubilius, 2011). This way of learning continued into the 1800s and the early 1900s as colleges and universities offered college courses through correspondence (Corwith & Olszewski-Kubilius, 2011). As technology improved over time, distance learning began to change and use other mediums for delivery. Distance learning made use of the radio and television in the 1950s and by the 1970s, electronic bulletin boards, email and now, the Internet (Corwith & Olszewski-Kubilius, 2011). With the advancements in technology came the increased popularity of online learning (Watson & Ryan, 2007 as cited in Corwith & Olszewski-Kubilius, 2011).

There are many forms of online learning available for those looking to go that route. Independent study is a type of online course where a student progresses through the course material on his or her own and works individually with the instructor (Corwith & Olszewski-Kubilius, 2011). The cohort model allows students to proceed at the same pace and work together online through virtual meetings (Corwith & Olszewski-Kubilius, 2011). Hybrid classes include face-to-face meetings combined with online work and virtual classes (Corwith & Olszewski-Kubilius, 2011). Other known names for partly online courses are

blended, mixed-mode and web-enhanced (Allen, Seaman & Picciano, 2010). Other words that may be used in this review that pertain to online learning are e-learning, virtual schools and web-based learning. This study focuses on K-12 learning with an emphasis on full online and/or blended learning.

Results

What Kinds of Students will Benefit from Online Education?

This section focuses on the types of students that would benefit from K-12 online learning. Originally, distance education was used to meet the needs of adult students in rural areas who did not have access to higher education due to geographic location (Corwith & Olszewski-Kubilius, 2011). Today, K-12 students with disabilities, students at-risk, and students that are gifted as well as regular education students would benefit from online learning. In the 1990s, online K-12 programs emerged to meet the specific needs for enrichment experiences and accelerated high school courses (Cavanaugh, Liu, Repetto & Wayer, 2010). Uses for online learning expanded over the years to include more than higher-level courses. Online learning is used for credit recovery, tutoring, hospital homebound, professional athletes, students who are incarcerated, students who need flexible schedules or students who need to move at their own pace (Rice, 2006).

Online learning is not for every student. According to Dabbagh and Bannan-Ritland (2005), students need the following characteristics to be successful in online courses: “fluent in online technologies, exhibiting a need for affiliation, understanding and valuing interaction and collaboration, possessing an internal locus of control, having a strong-academic self-concept and having experience in self-directed learning” (Cramer, Cramer, Fink & Fisher, 2008). Other researchers suggest students should be “intrinsically

motivated, possessing independent learning skills, liking computers, reading and writing at grade level, receiving consistent parental support and guidance, being self-directed, having the ability to work well on their own time frame without the structure of a conventional classroom, being involved in activities/hobbies/relationships outside school, having the ability to learn well from visual materials and tests, possessing a positive attitude, and being comfortable in asking for help” (Smith, 2001, as cited in Cramer, et al., 2008).

Motivation may be another important factor in the success of completing online courses. The Illinois Virtual School (2003) found that student motivation was the most important factor in successfully completing online courses according to surveys from administrators, counselors, students, and instructors (Ronsisvalle & Watkins, 2005). Research also shows that students who willingly select rather than are forced to take online courses perform better (Kurtz, Sagee, & Getz-Lengerman, 2003; Thomerson & Smith, 1996 as cited in Ronsisvalle & Watkins, 2005).

Summary and Critique

Research on K-12 online education programs is still relatively new. A majority of the research is administered in upper-level grades or college age students. The research shows a commonality of characteristics in K-12 students and college level students. Online learning is not going to be the answer for all students. Just as students succeed or fail in traditional settings, students will either succeed or fail in online courses. The reasons for taking online classes are unique to all that decide to take the online route. Much of the research found included differing types of online learning such as completely online format, blended format and those that make only take one or two courses online. As the use

of online learning continues to grow, more research should to be done on specific grade levels that are in smaller ranges.

What are the Advantages and Disadvantages of K-12 Online Education?

What are the advantages and disadvantages of K-12 online education? Online learning is flexible and can be either on your own time or with a group of students that meets at a specific time online. Online learning can benefit a wide range of students. Generally, virtual schools are publically funded and are easily “accessible to all students with accessibility tied to both universal design for learners with physical challenges and diverse courses to address the needs of both advanced and remedial students” (Schrum, 2005 as cited in Kleiman, Oliver, Osborne & Patel, 2009). The flexibility of online courses allows students the time needed to master a concept or acquire individual tutoring (Cavanaugh, Liu, Repetto & Weyer, 2010). In the summer of 2007, The North Carolina Virtual Public School completed its first session. To evaluate its effectiveness, the school distributed E-mail solicitations to 105 teachers and 6,986 students inviting them to provide feedback about their courses using a web-based survey. Ninety teachers and 706 students completed the survey. The survey found that online courses allowed students to pass a previously failed course or to “address prior mistakes, an opportunity to finally experience some success with course material, or a chance to take accelerated courses not available to a local school” (Kleiman, et al., 2009). The teachers from North Carolina also found that there was more communication with students and parents and students felt more at ease when asking questions online (Kleiman, et al., 2009). A national survey of K-12 online teachers from 2,305 public school districts in the 50 states and District of Columbia found that teachers felt there was a greater sense of community with their online students and

the ability to teach was not limited by bell schedules or classroom management (Archambault & Crippen, 2009). Abram (2005) suggests that parents can be more involved in their child's education as they can view the course material and ensure their child's work is not lost or in the bottom of their backpack. Abram (2005) also suggests a teacher-learner-parent triangle as parents can informally ask questions through email, instant message or bulletin boards and be more involved in their child's education.

Along with the advantages come disadvantages as well. According to Kozma, (2005) online teachers found that student-to-student conversations and interactions were not as common as in traditional classroom settings (Brady, Oliver & Osborne, 2009). Interaction can vary for a number of reasons such as instructor teaching style, course format or student participation. The most common disadvantage in online learning is dealing with technical difficulties. Students and teachers must be able to work through technical problems and not allow themselves to become frustrated. Nonverbal communication is diminished and writing, time management, technology literacy, and independent learning are emphasized in online learning (Wallace, 2009). Online education technologies may not be as up-to-date as other technologies students use on a regular basis. Most online programs fall behind in what students experience outside of the educational setting, such as in video and computer games and in online virtual worlds (Wallace, 2009).

Summary and Critique

The various studies on the advantages and disadvantages of online learning for K-12 are not as extensive as they are for upper levels of online learning. In the studies that were done, researchers conducted surveys of students and teachers that have taken or hosted online formats of K-12 courses. When one study found that communication was high and

in-depth, another would find that communication during the course was minimal. The advantages of online learning are consistent in the articles used while the disadvantages are inconsistent. The advantages of online learning for students that need or want to take those courses far outweighs the disadvantages based on the articles used for this study.

How Effective is K-12 Online Education?

How effective is K-12 online education? This question comes to the minds of many students, parents and teachers interested in online learning. Research from a national survey of 366 school district administrators in 2005-2006 shows that learning in an online format can be just as beneficial or better than face-to-face teaching and learning (Watson, 2007 as cited in Cramer et al., 2008). The U.S. Department of Education (2009) found that, on average, students learning in an online format performed better than those students receiving face-to-face instruction (Patrick & Powell, 2009). When searching for online courses, some may be better than others. A quality online course should be aligned with state standards; include a variety of assessment options and use certified instructors to teach the online courses (Davis, 2007 as cited in Cramer et al., 2008). Courses should incorporate differentiated instruction, support students with differing learning styles (Carvin, 2007 as cited in Cramer, et al., 2008), foster a community among learners, support student-centered learning and the lines of communication between student and teacher should be open (Watson & Ryan, 2007 as cited in Cramer, et al., 2008). Researchers found that asynchronous discussion such as discussion boards and blogs can help students cognitively process course material over an extended period of time, while synchronous discussion tools such as messaging and chat can help students collaborate around or plan projects, in addition to getting to know one another socially (Hrastinski, 2008 as cited in

Brady, Kellogg, Oliver & Townsend, 2010). Effective use of technology in an online course can give students an in-depth learning experience. Using technologies appropriately allows students to go on virtual field trips, have a broader exposure to the arts, fosters collaboration with a diverse group of students across classrooms, countries and continents (Cifuentes, Murphy & Davis, 1998 as cited in Corwith, et al., 2011). According to the National Education Association (2006), online courses can meet the needs of a wide range of students by abiding by the following course design standards: courses should be instructor-led; student-centered; collaborative in nature; maximize participation flexibility while providing a framework for student pacing; foster information, communication, and technology skills necessary for success in this century; course format should include expectations and instruction that are clear and concise; and courses should use the latest best practices (Corwith, et al., 2011).

Summary and Critique

Research shows that online learning is just as effective as traditional face-to-face instruction. Schools across the nation have seen the positive impact of online or blended learning and more schools every year are offering online formats of courses. Just as face-to-face learning may not be for every student, online learning may not be for every student. Most studies found for this literature review, inform parents, students and teachers of the important qualities to look for in a high quality online course. Not all online formats are created equal and students and parents will need to research the type of format they are interested in to decide what format will work best for them and their learning style.

Will K-12 Online Education Affect Educator Jobs?

How will the increase in virtual schools affect educator jobs in the future? According to the International Association for K-12 Online Learning, online learning is growing at a rate of thirty percent annually (Greenberger & Sanderson, 2011). In a study by the Ambient Insight research firm (Adkins, 2009), it was reported that more than 2 million K-12 students are currently enrolled in some form of online learning and over the next 5 years, this number is expected to increase to more than 10 million (Greenberger & Sanderson, 2011). A majority of U.S. schools are providing their students with some form of online learning (Archambault, et al., 2009). With the continued growth of online learning, many teachers may be uneasy about their career in the future. With the growth of online learning comes the need for instructors to teach those courses. Online teaching is an emerging option for pre-service teachers as well as traditional teachers. Online courses also need highly qualified teachers just like in traditional education. In an online format, the teacher's role changes from being a source of knowledge to a facilitator of learning (Blomeyer, 2002 as cited in Rice, 2006). As the need for online teachers increases, many colleges and universities are incorporating teaching online in their preservice curriculum as well as offering online teaching endorsements (Davis & Roblyer, 2005 as cited in Brady, et al., 2009). Online teachers must have the necessary skills in order to manage a successful online course. Brady, Oliver and Osborne (2009) cite three competencies necessary for online teaching: learning to manage online learning environments, preparing content for online learning environments and leveraging online tools for desirable strategies such as peer-to-peer communication. Traditional teachers can successfully teach online if given the proper training. Just as online learning is not for every student, online teaching is not for every teacher. Because a teacher is good at face-to-face teaching does not mean the same

teacher will be good at online teaching (Davis & Roblyer, 2005). Teachers not only need training in order to teach online, they need ongoing support and training to maintain and enhance skills as new technology is made available on a regular basis (Greenberger, et al., 2011). Teachers may have other options for online learning. Online schools need more than just quality teachers to run a successful school. Online schools need instructional designers, course facilitators, administrators, mentors, technology coordinators and guidance counselors (Ferdig, Cavanaugh, DiPietro, Black & Dawson, 2009 as cited in Cavanaugh, et al., 2010). All of these positions could be potential options for teachers.

Summary and Critique

Teachers need not be apprehensive about their careers for the future. There are plenty of options available for those wanting to become educators. Online learning is not taking away teacher jobs; it is actually allowing for more options. Not one article had any negative words to say regarding teachers or their careers. Most articles and research used teachers to plan their online courses. A majority of the literature reviewed informed readers of the skills and qualities of an online instructor and how an online class should function. Most of the articles reviewed noted that knowledgeable instructors that could manage a diverse group of students and form a community of learners will continue to be in demand.

Implications for Further Research and Conclusion

Online learning is a growing trend in the United States that benefits a wide range of students from those with disabilities to those who need advanced placement. Current research in this area is broad, spanning a wide range of ages and ability levels. More research is needed in specific areas of K-12 education. Instead of general research in K-12

education, the ranges need to be broken down into smaller chunks such as K-2, 3-5, 6-8 and 9-12. A closer analysis is needed in the younger grades. The advantages of online learning seem to outweigh the disadvantages of online learning and is a high quality alternative to traditional learning. Research in online learning is more extensive in upper grades with less research in grades K-5. As more courses are offered for younger ages, more research can be done to determine its success. Research shows the outcome of online learning is similar to traditional learning. Students looking to go the online learning route can know they are getting a quality education in a different format. Current educators and pre service teachers have multiple options in the route to take in educating students in the twenty-first century. The literature reviewed indicates a positive outlook for online learning with more research to come in lower grades, as its offerings are fairly new. Online learning will continue to grow and improve as newer technology is invented and utilized to meet the needs of a diverse group of learners.

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