THE CURRENT STATUS AND FUTURE OF K-12 ONLINE EDUCATION: US CASE

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Abstract
Cyber Schools, digital schools, online schools, virtual schools, internet schools, and e-learning, no matter what it is called online education is a new phenomenon in education that is not fully understood. A new trend that is hard to comprehend by just reading or hearing about it. The investigator of this study did not solely rely on the literature and decided to visit a cyber charter school district and visit the homes of cyber charter school students to gather observational data for this study. The investigator was aware of a new learner type that is called “Screenagers” in the literature. A case study approach was used to develop insights into the phenomenon, in this case, the present and future of cyber education. Qualitative inquiry methods were used in this study. These methods allowed the researcher to capture an understanding of the perspectives of the CEO’s, cyber charter parents and education academics regarding cyber education. Consisted with its theoretical framework, Constructivism, this study has followed a qualitative approach to explore the nature of construct. The goal of this qualitative case study was to explore what the charter school directors, cyber charter school parents and education academics believed the current situation of cyber schools in a US State to be and what their visions of cyber schools were for the future. Through this search, the researcher examined the effects of the progresses that are currently taking place in the cyber schools and across this US state. Three different methods of data collection were used; site visit and interviewing charter CEOs, home visits to cyber charter students’ homes and interviewing parents, and information sessions and interviewing education academics. A leadership group consisting charter school CEOs, including the researcher visited the cyber charter school district led by one of the CEOs to learn how cyber curriculum can be integrated into their existing academic programs. The leader of the group was the president of the state’s coalition of public charter schools and CEO of one of the charter schools in the state. The investigator also visited homes of fourteen cyber charter school students as a second step of data collection. Cyber charter parents were interviewed on the subject; The investigator visited the homes of 14 cyber charter school students in the state and took observation notes as they were either receiving a box full of instructional materials from the cyber charter School or working on the computer connected to their online classrooms. Later, information gathered from the site visit and home visits were presented to thirty-six education academics in six different information sessions. After the information sessions, education academics were interviewed on the subject. Three different questions asked during interviews; How cyber curriculum can be integrated into existing academic programs of brick and mortar charter schools? What is your role as a cyber charter school parent? What do you believe the present state of cyber schools in your state is? Cyber charter school CEOs reported on a conceptual change in schooling, from two extreme end of schooling; traditional brick and mortar schools and futuristic cyber schools to combination of both; Brick and Click Schools. Parents reported that while some of public school parents are accused of using schools as baby-sitting services, cyber charter schools required full time supervision at homes. Education academics reported heavy criticism on social development of cyber school students.

Key Words: Online education, brick and mortar schools, brick and click schools, cyber schools, screenagers.
1. Introduction

"Online learning is a disruption that cannot be stopped,"

Joseph J. O’Brien, (Director of the Chester County Intermediate Unit)

Cyber Schools, digital schools, online schools, virtual schools, internet schools, and e-learning, no matter what it is called online education is a new phenomenon in education that is not fully understood. A new trend that is hard to comprehend by just reading or hearing about it. The investigator of this study did not solely rely on the literature and decided to visit a cyber charter school district and visit the homes of cyber charter school students to gather observational data for this study. The investigator was aware of a new learner type that is called “Screenagers” in the literature. For example, two teenagers are sitting on a curb texting each other. A screenager is a teenager who spends a lot of time on an electronic screen. Screenager activities are sending e-mails, text messages, and instant messages, downloading movies and music, Web surfing and gaming. Cyber charter school students are not only teenagers; this cyber charter school district had students from kindergarten to 12th grade (Rushkoff, 1997).

Today’s generation of pupils is frequently referred to as Generation Y or the Millennial Generation. Generation Y, as one high school student defines, has “technology in their blood”. These pupils do not know existence without computers and the Internet. US Department of Education to one study, 94% of these pupils use the Internet for school related study. Pupil access to the Internet at school has grown radically over the years (Rosendale, 2009).

Could cyber schools be a solution to the country of India’s biggest educational problem. Human Resource Development (HRD) Minister Kapil Sibal has reported in 2010 that there is a shortage of 1.2 million teachers in India and K-12 education in India currently is not mandatory. Could online education, a global phenomenon, be solution to India’s problem? More specifically, could laid-off New Jersey teachers teach Indian children in the comfort of their houses?

When Katrina Hit Louisiana and destroyed the State’s whole Educational System literally and physically wiped out all the brick and mortar schools, could cyber schools have been a quicker solution than rebuilding the brick and mortar schools back?

50 percent of all high school courses will be given online by 2019. This does not mean that brick and mortar school buildings will disappear but some courses will be in class, some will be online (Christensen, Johnson & Horn, 2008). The US Department of National Education Technology Plan encourages states, districts, and schools to deliver all students with access to online learning opportunities and to establish criteria for getting credit via online learning that parallels the criteria for getting course credits in local schools; however, current traditional educational systems are not fully equipped to deal with the challenges of implementation. Elementary and secondary school administrators have concerns about virtual education that are similar to those associated with traditional education, which is summarized into three major categories: policy, quality, and funding. Within the category of quality, a major concern is training for teachers of virtual courses. Unlike traditional education, administrators seeking resources to aid in virtual program formulation will find a scarcity of research in the K-12 levels. We see changes taking place in the educational arena; a new enthusiasm in the infinite possibilities of the digital age for changing how we learn, how we teach, and how the countless fragments of our educational system fit together – an uproar for change that is bringing transformations and incomparable changes in our nation’s history (United States Department of Education) (Morse, 2010).

The educational world has been transformed through technology. From the early beginnings of the one-room schoolhouse to the modern day classroom, the physical environment for learning is an ever-evolving concept. Distance learning is hardly a new innovation in education. The earliest form of an extended classroom or distance education was paper-based correspondence. The research revealed that instruction associated with distance learning could accelerate learning as good or better than conventional classroom instruction, and the lack of direct contact was not disadvantageous to the learning process (Means et al., 2009). In recent years, computers have been added to the education mix as supplemental enrichment. The availability of the Internet, advanced software applications, and accessibility to widespread use of the personal computers have all contributed to adapting, expanding, and elevating the level of distance learning. Curriculum and instruction can now be delivered in a timelier and a personal way. Again, more recent research has supported the success of distance learning for the adult learner. The Carnegie Foundation reviewed multiple comparative studies and found no significant differences in student learning outcomes for mastery of coursework from online instruction to that of traditional educational settings. These studies primarily focused on adult level distance learning models (Terry, 2009; Grigorovici & Russell, 2002).

The latest trend in the e-learning environment is now taking place at the K-12 level. By 2001, over 25% of states in the United States had operational or planned state-sanctioned K-12 virtual schools in place. This figure represents only a fraction of all K-12 virtual offerings. State-sanctioned virtual schools are operated and financially supported by state-level governments. State virtual schools currently represent the leading option in distance education. College and university based virtual schools offer independent learning high school courses and video-based continuing education programs to K-12 online courses. Consortium cyber schools are national, multi-state, state-level, or regional in nature; these virtual offerings act as agents for outside provider chances or share courses among partners. Local education agency-based virtual schools are created by local public schools and school districts. These schools serve to support and supplement alternative educational needs to the local
population of students. Many schools utilize a hybrid model of both distance and face-to-face instruction. Virtual charter schools operate under state charters and are exempted from some state rules and regulations depending on charter specifics and charter school law. Private virtual schools make up a smaller portion of overall national offerings and primarily serve a large population of home-school students. Lastly, many for-profit companies have contributed an important job to the establishment of cyber school offerings, including creating courses, delivery platforms, curriculum, web development, and software applications (Terry, 2009).

Virtual education provides differentiated learning environments, exposure to advanced level technologies, flexible scheduling, and one-to-one teacher-student interaction. Additionally, virtual schools are being explored as a possible solution to the ever-growing achievement gap in American education. The new frontier in e-learning models now includes middle and even elementary level learners. These learning models incorporate the addition of a learning coach, usually a parent, to provide additional supervision and support for younger students. Virtual education shares the common goal of increasing student achievement through best practice. Although the why is mutual, the how varies across models. (Terry, 2009; Kafai & Sutton, 1999)

According to a study (Cattagni and Farris, 2001), almost 100% of U.S. public schools have Internet connections and the student to computer (internet connected) percentage has increased to a portion of 3.8 to 1. Screenagers spend more time using the Internet than watching television and this new generation of pupils wants a new style of education. An education delivered in a channel to which they are habituated: the Internet (Rosendale, 2009).

The proliferation of the Internet has challenged the boundaries of education’s conventional methods of teaching and learning. Online education represents a vital response to the shortcomings of K-12 education and the need for reform. As a result, online learning continues to grow rapidly across the United States as an increasing number of students, educators, and policymakers realize the vast benefits of learning unconstrained by time and place. Many online programs were created in response to the need to transcend limitations of time and place and increase availability of courses to students in rural and urban schools. Virtual schools are increasing options for students, allowing for focus on student needs and supporting school reform and redesign efforts.

In K-12 education, online learning is an emerging but rapidly growing phenomenon. Emergence of online learning represents a convergence of several factors: the development of the Internet and the World Wide Web, the utilization of computers in instruction, the use of media to unite teacher and student at a distance, and the integration of technology into all aspects of education (El-Tigi, Lewis & Mac Entee, 1997). However, questions still remain about the educational needs best addressed through online learning as well as its impact on school improvement and learner outcomes.

Online education represents a crucially important response to the shortcomings of K-12 education and the need to reform. With the United States economy transitioning away from manufacturing and toward a greater percentage of knowledge-based jobs, 90% of the fastest growing jobs in the economy require a college degree and only 70% of all public high school students graduate, and only 32% of all students leave high school qualified to attend four-year colleges (Watson, 2007). In addition to helping address these shortcomings, online education can also facilitate mastery of essential 21st century skills by stressing self-directed learning, time management, and personal responsibility, along with technology literacy in a context of problem-solving and global awareness.

In 2004, many political and educational leaders realize that global trends are changing the nature of education. With the call for school reform being heard, several groups in America have recently identified school reform as a major and current priority. The US Department of Education has identified high school reform models that support student achievement, and has acknowledged small school size, scheduling choice, charter schools, career academies, early college initiatives, and student engagement as research-based models that contribute to improved student achievement. The National Governor’s Association (NGA) formed a task force to study redesigning high schools in order to make them more relevant and rigorous to the lives of America’s students. The task force initiative responded to employers’ needs for more highly skilled and better-educated workers, suggesting that reforms include choices in high school programs and opportunities to earn college credit or professional credentials. The National Association of Secondary School Principals called for redesigning high schools that are more rigorous and personalized for American students. Each of the reform models offered and recommended by these groups is an example of a proven strength of online learning that is central to success in the new global economy. By providing scheduling flexibility, personalization, freedom from a large physical school, engaging tools of distance learning, opportunities to accelerate learning, and access to rigorous academic programs, virtual schools are not just important examples of school reform models, but online education may also represent the best hope for bringing high school reform quickly to large numbers of students (Barkley, 2010).

1.1. History of the visited Cyber Charter School

The town where the cyber charter school is located was an economic and cultural powerhouse through most of the 20th century, due to its vibrant steel industry. Like many similar communities, this town suffered a devastating decline beginning in the late 1970s and ceasing with the closure of Steel Mills in 1982. The Town’s influence as a hub of industrial and cultural progress seemed to disappear overnight and the community faced an
economic and educational turmoil. The community's population declined quickly as people moved out of the area to search for new jobs. The town's tax base fell dramatically which, combined with decreasing enrollment, forced city officials to close down its public high school in 1986 (Moe & Chubb, 2010). In the following years, there was great anxiousness among high school students and their families because there was not even one community in that County that would agree to educate the students from this town on a long-term basis. In 1990, the community of another town in the neighboring state, which is approximately 10 miles from the town, agreed to educate the high school students from the town for the next 20 years. This was a great easement to the students, families and community leaders in the town. However, it raised concerns in the capital city and throughout the state because tax dollars were now being sent to the neighboring state to educate their students.

In 1997, a new charter school law in the state provided a new opportunity for the community of the town. The next year, the town received a $25,000 state grant to put together a plan to address the educational turmoil in its community. Under the leadership of its CEO, this Cyber Charter School was created and started enrolling students in the fall of 2000. Utilizing a truly cutting-edge approach, Cyber School formulated an advanced union of modern technology and proven academic methodologies to deliver high-quality educational choices to students and families.

Initially designed to provide educational services to approximately 50 students from the town, Cyber Charter Schools had over 500 students enroll in the first year and it has seen fast growth ever since.

2. Goal
The purpose of this qualitative case study was to explore what the charter school directors, cyber charter school parents and education academics believed the current situation of cyber schools in a US State to be and what their visions of cyber schools for the future were. Through this search, the researcher examined the effect of the progresses that are currently taking place in the cyber schools and across this US state. Three different methods of data collection were used; site visit and interviewing charter CEOs, home visits to cyber charter students' homes and interviewing parents, and information sessions and interviewing education academics.

Three different questions asked during interviews.

How cyber curriculum can be integrated into existing academic programs of brick and mortar charter schools?
What is your role as a cyber charter school parent?
What do you believe the present state of cyber schools in your state is?

3. Methods
A case study approach was used to develop insights into the phenomenon, in this case, the present and future of cyber education. Qualitative inquiry methods were used in this study. These methods allowed the researcher to capture an understanding of the perspectives of the CEO’s, cyber charter parents and education academics regarding cyber education.

Consisted with its theoretical framework, Constructivism, this study has followed a qualitative approach to explore the nature of construct. A case study is a bounded system that is used to understand the selected case in depth (Baytak, 2011).

CEOs of nine brick-and-mortar charter schools visited the home of a US state’s cyber charter school district in a first step toward adding their own online courses through a proposed state Charter School Digital Network. The researcher was one of these visiting nine Brick and Mortar charter School CEOs. These nine CEOs spent a whole day visiting the facilities, talking to the administrators and staff, listening to presentations. At the end of the day, ten charter school CEOs, including the CEO of host cyber charter school district were interviewed on the subject;

A leadership group consisting charter school CEOs, including the researcher visited the cyber charter school district led by one of the CEOs to learn how cyber curriculum can be integrated into their existing academic programs. The leader of the group was the president of the state’s coalition of public charter schools and CEO of one of the charter schools in the state.

The investigator also visited homes of fourteen cyber charter school students as a second step of data collection. Cyber charter parents were interviewed on the subject;
The investigator visited the homes of 14 cyber charter school students in the state and took observation notes as they were either receiving a box full of instructional materials from the cyber charter School or working on the computer connected to their online classrooms.

Later, information gathered from the site visit and home visits were presented to thirty-six education academics in six different information sessions. After the information sessions, education academics were interviewed on the subject.

After the data collection at the school site and students’ homes, the researcher prepared a presentation on the cyber charter school and had 6 information sessions with 6 education academics in each session. Total 36 education academics participated in these information sessions.

Interviews were done after each information session.

Data Collection Observations notes during facility visits and home visits, interviews of Charter CEOs, cyber charter school parents, and education academics were used as the descriptive data collection tool regarding the current and future state of cyber education in this US state. The researcher was the primary instrument for data collection and analysis.

During the interviews, the subjects expressed their thoughts and opinions and his or her own perspectives on how they believe the current state of their school to be and what they believe cyber schools will be in the future, and Interview notes were taken. The critical factor was not the quantity of informants, but the quality of the responses.

The selection of the informants of the study was based on the fact that they were all current brick and mortar charter
CEO’s, cyber charter school parents, and Education academics in this particular US state. Using the analysis process recommended by Lincoln and Guba (1985) the identified emerging themes were reported by 1) consensus themes, which are when the majority of the participants stated the theme, and 2) supporting themes, which are when two or three of the participants stated the theme.

4. Results
Based on the guidelines of case study research methodology, the findings of the current study can be categorized with the following themes:
Findings from the Site Visit and Interviewing Charter CEOs
The physical site included office buildings, a warehouse where the cyber charter school shipped everything from crayons to laptops to cyber charter school students’ homes (There was a post office and a repair shop inside the warehouse house), a performing art school where cyber charter schools students occasionally met for social activities. After touring of the physical site, The CEOs engaged in a round table discussion followed by the interview. The investigator asked one open-ended question: How cyber curriculum can be integrated into existing academic programs of brick and mortar charter schools?
One of those attending, CEO, said, “I am very excited about the possibility of expanding our school without having to expand the facility.”
He also said adding online curriculum will free his school from the limitations of its locality, bringing great teachers and a wider variety of course offerings to students. He hopes to add several cyber classes this fall through the program.
The idea of visited cyber charter school’s sharing online curriculum and its CEO, at the charter school coalition’s annual leadership conference, proposed expertise with their brick-and-mortar counterparts. The host CEO took the group on a tour of the Cyber facilities. “There is a great opportunity now,” he told them. “If we take advantage of it we can be leaders for a long time. If we don’t, we’ll be spectators.”
He said public school districts finally have begun adding cyber curriculum, and State’s 124 bricks-and-mortar charter schools need to do the same if they wish to remain competitive.
A presentation of a “plug-and-play” virtual school model showed the educators how they can add the Interactive courses they want from a menu of 250 state-approved courses. The website would function as part of the host school, and is designed to be flexible, inexpensive and easily customized.
“I think this collaboration is extremely important. Brick-and-click is the wave of the future,” said another CEO.
Findings from Home visits to cyber charter students’ homes and Interviewing Parents
Following instructional materials were in the boxes that cyber charter School Students received; one laptop, one printer, one iPad for 11th and 12th grades, one certain brand Touch Pad, Text Books by a well-known company. All instructional materials had the cyber charter school’s logo. The investigator asked one open-ended question: What is your role as a cyber charter school parent? The investigator observed that all cyber charter school students needed an adult supervisor when they are home. Parents of cyber charter school students reported during the home visits that cyber school employees makes occasional phone calls to the homes to make sure that their students are being supervised. Some parents reported that cyber charter employees interviewed the parents as a pre-condition for enrollment and made sure that their students will be supervised home after they are admitted to the cyber charter school. 12 of 14 parents reported that while some of public school parents are accused of using schools as baby-sitting services, cyber charter schools required full time supervision at homes. 8 of 14 Parents of elementary cyber school students reported that they feel like their children having problems finding playmates at an age where play is everything. Remaining 6 of 14 parents of middle school and high school students reported similar concerns about social activities of their teenagers.

Findings from Information Sessions and Interviewing Education Academics
The researcher has shared all the information that he has gathered during the site visit and home visits. The investigator asked one open-ended question: What do you believe the present state of cyber schools in your state is? 32 of 36 Education Academics pointed out that cyber charter school students’ social development will suffer, activities that the cyber charter school is organizing such as field trips, student clubs, dorms, tutoring centers and occasional gatherings for performing art activities, study groups etc. will not be enough for cyber charter students’ social development.

5. Discussion and Conclusion
The CEOs use internal and external sources for professional development on a wide variety of topics, which differed from school to school. The CEOs foresee changes in traditional brick and mortar schools so that they can compete with cyber charter schools. Some of these changes could be an increase in the amount of technology used in brick and mortar schools or others such as the offering of online courses. Lastly, Cyber CEOs might transfer their schools into brick and click schools to avoid criticism by cyber charter parents on social development of cyber school students. Same criticism was made by 32 education academics as part of this study.
Cyber elementary charter school students miss out on play due to the fact that they do not have as many friends as brick and mortar elementary students do.
Cyber middle and high school students miss out on social activities due to the fact that they do not have as many friends as brick and mortar middle school and high school students do.


Future research needed to study the impact of online education on social development of kindergarten and elementary cyber students, middle school students and high school students separately. All these might lead the way to a conceptual change in schooling, from two extreme end of schooling; traditional brick and mortar schools and futuristic cyber schools to combination of both; Brick and Click Schools (Smart & Cappel, 2006).

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