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A Survey of Web Based Instruction in American High School Education

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A SURVEY OF WEB BASED INSTRUCTION IN AMERICAN HIGH SCHOOL EDUCATION

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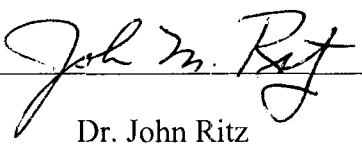
Date 3-17-06 Approved By 

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CHAPTER I

INTRODUCTION

This was research begun in January 2004 and completed in June 2005 on virtual[1] education in America. According to the Oxford Dictionary of Current English, the term *virtual* had two meanings. The first definition of virtual was, "almost or nearly the thing described, but not completely." Using this definition - *virtual education* meant almost education, but not completely education. The second definition of *virtual* was, "*in computing* not existing in reality, but made by software to appear so."[2] The term *tangible* also had two meanings. The first was, "able to be perceived by touch." The second meaning was, "definite or real."[3] An issue in American education in the beginning of this century was whether *virtual* (computerized) education resulted in *tangible* (definite or real) learning.

An Arizona State University report, for example, said the learning at one online school was "not tangible by today's standards."[4] Was an online education, where teachers and students interacted in a *virtual* (appearing to be real by computer software) environment via the internet, as valid as an education conducted in a brick-and-mortar school, where teachers and students interacted in a tangible (able to be perceived by touch) environment? Did virtual education provide definite or real learning? Determining the answer to these questions was not the purpose of this study. This research study was made to determine if a transition to online education was taking place, regardless of opinions. Virtual schooling may have been growing exponentially, whether

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[1] See Definition of Terms
[2] Soanes, p 1031
[3] ibid, p 930
[4] Bracey, p 21-2

its tangible validity was acknowledged or not. This was a research study of the establishment and presence of high school education conducted over the Internet.

Seeking ideas for developing an online public high school education program, the researcher found that public high school classes were *already* online - virtually (not completely) everywhere. Virtual high school was in session and attendance was growing in America. Yet the existence of online high school course offerings was not widely known. The virtual school could not be seen along any boulevard. Most virtual students graduated with "regular" diplomas, so they would not have seemed different from any other high school graduates. Preliminary field research for this study began with asking Old Dominion University Technology Education students if they knew that high school was being conducted over the Internet in the United States. Eighteen out of 20 surveyed responded that they did not. The researcher decided to determine the extent of the transition to, or maybe more accurately incorporation of, the Internet for conducting secondary education.

Ten years earlier, businesses were just beginning to use the Internet, and few individuals had personal access. By 2005, nearly every business used the Internet, and even people living in a cave in southern China had access.[5] Distance education, via correspondence, had been around for a long time. In the early 1980's distance learning also began to use stand-alone computers. By 2005 distance education could be conducted real-time over the Internet with words, sound, and video. This study sought to determine how public secondary education had been changed by the Internet medium for delivering

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[5] Baker, p A17

instruction. The Internet could take students places that neither television nor regular classrooms ever could. Virtual classrooms were making the world a much smaller place for students in areas of sparse population. The Internet lent itself to home-schooling, and Internet connection to school was making a huge positive impact on students with disciplinary problems, special health needs, or time consuming extracurricular activities. The No Child Left Behind Act (NCLB) was a catalyst for growth in online education.

Considering the following events helped one to envision these changes:

1. Gallup Poll results posted on-line concluded: "Americans tend to be somewhat more dissatisfied than satisfied with the quality of public education in this country."[6]

2. Exactly one month earlier, a local newspaper quoted experts who "maintain another Columbine will happen."[7]

3. In August 2001, the U.S. Census Bureau determined that, "As many as two million American children are schooled at home, with the number growing as much as fifteen to 20 percent per year."[8]

4. A state Department of Education study found that nearly 27 percent of Virginia students who started public high school in 2000-01 did not graduate in 2004.[9]

5. At a National Governor's Association summit on high school education, Microsoft's Bill Gates said, "America's high schools are obsolete." While Virginia's Governor Mark Warner concluded, "From building complex data-tracking systems to

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[6] Lyons
[7] Caldwell, p-A10
[8] Bauman, Abstract
[9] Sampson, p. A11

monitor student progress, to providing advanced online coursework for students or virtual professional development programs for teachers, technology's implications for high school reform abound."[10]

One might have concluded that public education as it was known was coming to an end. In a land of Freedom anyone could choose any path available to a higher education and living. In a Democracy every John Dewey and William Glasser, every teacher, and every parent had a voice in the direction of American educational institutions. One might have also concluded that brick-and-mortar schools would become part of the past; that fear and obsolescence would cause their doors to be closed forever. This study was started to determine if *that* conclusion was realistic.

As this research progressed, it became not about students abandoning brick and mortar schools the way children were abandoning their parents' farm. It was not about dissatisfaction or violence, nor about home-schooling. This study became a look at a trend in public education, a trend toward online, or "virtual" education, specifically at the high school level. This research was not about the arguments for or against this trend, though they would be reviewed. This was a study of the status quo of virtual secondary education in the United States as of the 2004/05 school year.

This study was a meta-analysis. It was not a limited survey with statistical analysis made to determine mean, median, or modes. This study was a broad survey of the United States, like the analysis a *surveyor* makes of a landscape, a view of online high school in the 2004/05 school year, with a constructive thought of the future education

[10] eSchool News, Volume 8, No. 4, April 2005, p. 1 and 35

panorama. The surveying instrument used and the landscape viewed was the Internet; how it was being used for high school education. This treatise did not seek to learn how parents, teachers, or even students would react if asked how they *felt* about using the Internet for education. This study sought to determine how much, how far, how fast the transition to or incorporation of virtual education *was* taking place. The transition itself would indicate a value choice of the users. This was a research of fact, not philosophy.

This study should have provided valuable information to anyone teaching, or preparing to teach in 2005. The study should have described States, districts, and teachers who, using this medium, were establishing a record of success. The study should have introduced material resources for those who wanted to begin, sustain, and improve virtual education programs, and financial resources for virtual education partnerships. This was a survey for educators who may have been working in schools that would soon offer the online alternative.

STATEMENT OF THE PROBLEM

The problem of this study was to determine the nature and progress of online education in secondary school.

RESEARCH GOALS

With the purpose of determining if and how the transition to Internet-based public high school was taking place, the research objectives were to:

1. Determine the extent of online learning in public secondary education in the 2004/05 school year.

2. Determine if the online trend was toward students taking some online courses while attending regular school, or toward students taking 100 percent of classes online.

3. Determine if a significant number of students were taking online courses offered by programs located in states other than the ones in which they reside.

4. Determine if students were completing their online classes more often at home or a schoolhouse.

5. Determine the most common reasons to offer/attend on-line classes.

6. Identify indicators that online education was a proven successful alternative to traditional education.

BACKGROUND AND SIGNIFICANCE

Five-hundred years ago, the transition to using the printed word in the home and in education came about in spite of argument, edict, and legislation against it. At the beginning of the Twenty-First Century, due to technological advances in communication the entire field of learning was standing at the door of a Gutenberg Moment.[11] Administrations, teachers, parents, and students who did not step through the door may have been left behind. While the argument raged whether the transition to virtual education *should* or *should-not* take place, the transition to virtual education *may have been* taking place.

The lecturer of the Age of Enlightenment who refused to teach "by the book," and denied that the transition to self-learning via written word was taking place, would have

[11] Levy, p 51

found a dwindling audience of students. Educators in 2004 were at the threshold of a Gutenberg Moment, and many teachers, schools, districts, and states stepped into the virtual classroom. Education programs that did not join them may have been left behind in a darker, less informed, less flexible age, and since online programs were not bound by geography, their students may have changed programs and crossed the threshold without them. This research found that in 2004 there were statewide, state-run online programs; public school online school consortiums within states, and online charter and private schools. Yet, some states, schools, and more importantly children, were (left) behind in this progress toward online instruction alternatives.

The parent who lived in the remotest corners of Montana, New Mexico, Alaska, or Maine, or in the neighborhood with the worst school district in California or Delaware, may have wanted their child to take courses from the safety of home, online - from selected, quality, certified teachers. In the 2004/05 school year parents in Alaska, Maine, and California had online education alternatives, but those in Montana, New Mexico, and Delaware did not.

LIMITATIONS

This study was completed with the following limitations:

1. Scope: This was a meta-analysis of the scope of virtual high school in America in the 2004/05 school year. This was not a search for procedures or resources for starting an online program.

2. Geography: It would have been uninformative to limit the research to one political/geographical area, since the World Wide Web recognized no such boundaries.

This was a look at virtual high school in the United States. If limited to schools in South Hampton Roads, research would have concluded that virtual education in public high school was not taking place, as Tidewater high schools, though they all had websites, and some courses taught remotely using television as a delivery medium, had no online education alternatives.

3. Conceptual: The term "virtual" education may have had a slightly different definition to some users than others. Asynchronous[1] "black board" technology courses were without real-time interaction between the teachers and students. There were lectures, reading assignments, movies, presentations, and exams, and (unless photographs were posted or e-mailed) student and teacher did not see each other. Synchronous[1] courses used digital "white board" technology. For the purpose of this study, these were both examples of virtual education. If the Internet was used only to register for classes, and order study materials, this was not virtual education. When the Internet was used specifically as a medium for education, then the instruction was "virtual." This issue was a conceptual limitation, because the medium continued to evolve. Virtual education would become much more real-time interactive, even if the interaction was eventually between the student and a "virtual" instructor.

4. Methodological: The primary medium of this exploration was the Internet.

a. The researcher did not physically see or shake hands with the educators or students using virtual education. He only saw information the virtual schools put on the web; information they e-mailed to the researcher, or questions they

[1] See Definition of Terms

answered over the phone. The researcher used search engines to find websites, which often led to other websites. If the information about a virtual school were not on the Internet, it may not have been found during this study. Or if the researcher did not use the right combination of words when using a search engine, the existence of a virtual school may have remained tangibly hidden from the study. This methodological limitation was considered a small one, since the very medium of the instruction studied, was the medium used to study it. In other words, it was like going to the library to learn about books. In some cases, respondents to the survey recommended the researcher to other sites not found previously. This part of the study took much time. Sometimes, lists of online schools found online were outdated and incomplete. Virtual schools, it turned out, were not as easy to find as brick-and-mortar ones.

b. If the goal was to find the exact number of schools, courses, and students in virtual education for the 2004/5 school year, with a great degree of confidence, collecting the data would take too long (a year and a half was spent in collecting data as it was). Importantly, the findings showed that virtual education *had* become a practically significant medium of instruction in America's public high school education and attendance was growing.

c. Some of the limitations in using the Internet to conduct the study were also limitations to virtual high school students. The Internet was loaded with distractions. At times the researcher found himself "surfing" when researching

was the intent. Also, some information found on the Internet was not factual, and can therefore misinform students. And, some few "educational" websites appeared to be authored by charlatans.

5. Inhibitions: Schools and Teachers - Some schools, virtual and otherwise, were reluctant to share information, for political, economic, and competitive reasons. This reluctance seemed to dissipate in the year data were collected via e-mail. Perhaps it was because online education was becoming a norm, no longer a stepchild of accredited education. The researcher considered trying to get local high school teachers to answer a questionnaire about their use of the Internet to conduct training. But perhaps those who were not, and felt threatened by this new teaching medium they had no competence in, would not likely respond to the questionnaire, making the results skewed. Again, the decision was to conduct a practical research, not a value one. This (virtual) medium of instruction was growing, not by a grand design, but by prudence, by capitalistic investment, by demand, and by necessity (partially driven by the NCLB Act). The researcher considered conducting a survey of whether "we *should* conduct high school over the Internet." But when the preliminary research began, finding that we *are* conducting high school over the Internet, should or should not seem superfluous. This study therefore sought to determine:

a. What are the reasons for offering/taking online instruction as an alternative to traditional in-school instruction;

b. How significant of a transformation has been made;

c. What are the organizational models of online education; and

d. How this study might benefit schools, districts, and states developing their own online programs?

6. Communication: One of the limitations encountered was in the responses to the questionnaire. Some responses to some of the questions could not be compared to responses to the same questions from different respondents, as if they were responding to different questions. Another limitation from the questionnaire was the definition of "prove". Asked: "What, in your opinion, most proves the success of online education?" some answered as if asked: "*What is required* for online education to be successful?" Others articulated *evidence that shows* online education is working.

ASSUMPTIONS

Utility should be the final judge of merit in a democratic technology.[12] This research proceeded with the following assumptions:

1. Communication and experience are the primary modes of our education. And the Internet is rapidly developing as *the* primary universal medium of communication, with audio and video as well as graphic images.

2. A transition is taking place. The transition to virtual education may end with empty brick buildings where traditional public education took place during the industrial age, to wherever-you-are education taking place during the information age. Or it may end with interactive stations in every classroom for every student within those hallowed halls.

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[12] Meier, p 21, writing about the beliefs of Thomas Jefferson

3. Only Luddites, Taliban, and their like would try to deny technology that improves the human condition. Transition worth pursuing is that which means long term improvement in quality of life.

PROCEDURES

"It is a metaphor of probabilistic thinking: the more arrows you shoot at the target, the better sense you will have of the bull's-eye."[13] This research study was a Meta-analysis. Often, social science research had been criticized because one researcher would find studies supporting one viewpoint, while another found studies supporting a conflicting viewpoint. Meta-analysis offered a way out of this quagmire by considering all studies that may have been found on a subject. The growth of this type of statistical analysis was another result of the plethora of information available from search engines on the Internet. This study was a meta-analysis statistical review of States' progress toward virtual high school education.

After reviewing the literature, the researcher began by searching the Internet with key words such as "virtual high school," "Internet high school," and "virtual education," and by going to state Department of Education (DOE) websites. If the sites did not provide all the information needed (few sites gave the year their virtual school began, and fewer still gave the number of students currently enrolled), points of contact listed on the web pages were e-mailed, and then telephoned. The researcher also found U.S. DOE web pages which had published on the subject since January 2004.

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[13] Menand, p. 431

Each information trail was pursued to the end or the next branch. Basic information sought on each virtual high school education program was:

1. When it started, and
2. How many students were currently enrolled.

This information answered the problem of this study – Is there a trend to online education and is the trend gaining momentum (translated as more programs and/or more students enrolled)? Also sought was more specific information about each online program. The e-mailed questionnaire asked for:

3. The number of high schools involved with each program;
4. Information whether the trend was toward students completing 100 percent of their high school education online or toward taking online courses as a supplement to normal classes;
5. Reasons why students were taking online classes;
6. Examples where regular school classrooms had online stations available for students to complete virtual courses on regular school time, and
7. Opinions from virtual educators as to why online education works.

DEFINITION OF TERMS

The following terms are defined to assist readers of this study:

1. Asynchronous – Without real-time interaction between student and teacher. Assignments, lectures and completed tasks are posted on a website. E-mail is usually asynchronous communication.

2. Delivery Systems – Tools used to provide communication and instruction to students. Before the printing press, education relied on live lectures and seminars between teacher and students. Today's delivery systems include radio, television, telephone, teleconferencing, e-mail, and websites.

3. Meta-analysis – A synthesis of available information about a topic.

4. Regular School – In reference to students attending both virtual classes and classes in traditional brick-and-mortar buildings, "regular school" is the traditional one.

5. Synchronous – With real-time interaction between student and teacher. On their computer, the student can see and (or) hear what the instructor, and other students, are doing and saying, as they do it. Telephone is an example of synchronous communication.

6. Traditional Education – Class and study in a building where students meet face-to-face with their teachers.

7. Virtual Schools, Virtual Education, E-Learning, Online Education – Terms used synonymously in this study. Organizations that offer courses through Internet or web-based methods. Classes and study are online, using e-mail, chat, and websites. Not to be confused with other forms of alternative education, distance education, or correspondence schools. Virtual education is certainly alternative to traditional education, but "alternative education" to traditional high school was around before personal computers. Correspondence in a "virtual" school is conducted over the Internet.

OVERVIEW OF CHAPTERS

In summary, seeking ideas for conducting high school over the Internet, the researcher found that it already was. The study then became research to determine the extent and trend of online high school learning as of the 2004/05 school year. The researcher wanted to get some idea if this was a cataclysmic change – would online education replace traditional education, or was it just another form of alternative education? The researcher also wanted to determine the reasons for and therefore value of offering/taking online classes, as well as some idea of the methods of online delivery.

Chapter II, the Review of Literature will start by comparing the proliferation of information on the Internet today with the spread of the printed word 500 years ago. It will then review the argument for or against online instruction. Next it will review literature on the virtual school trend. Finally the chapter will review literature on the how-to and why of virtual education.

Chapter III will discuss the specific Methods and Procedures of the study. Findings will be shown in Chapter IV. Chapter V will be a summary, conclusions to the report, and recommendations to interested educators.

CHAPTER II

REVIEW OF LITERATURE

"The entire field of learning is standing at the door of a Gutenberg Moment."[14] The printed word changed the structure of the political world. Was the virtual word changing the structure of education? This chapter will begin by comparing the development of the information highway to the proliferation of printed information 500 years ago. This is done to show the significance of this new form of communication, which affects education, commerce, and politics.

COMPARING THRESHOLDS

The spread of knowledge due to the printing press *can* be compared to the proliferation of information due to the Internet. The Protestants of the 16th Century could work out their own salvation with their own copy of the printed Word. Persons of the 21st century could access the collected information of the world on their personal computer. More than 10 million copies of 40,000 different titles were produced during the fifty years following Gutenberg's invention. During the century that followed, as many as 200 million books were printed in Europe.[15] If one were to Google on "Gutenberg" in June 2004, 3.4 million references were available in a second. A Google on "virtual high school" provided 70,900 references instantly. But the comparison only went so far. Virtual education was not students teaching themselves via search engines. Students must have been enrolled in something, under guided instruction, with tested results in order to receive a valid diploma. There were very few like Bill Gates in the

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[14] Levy, p 51
[15] Volti, p 184

world; who could teach themselves, drop out of formal education (conducted traditionally or virtually) and succeed fabulously.

Books allowed people to read silently and alone, and the university lecturer (the title means only reader) ceased to exist.[16] Computers allowed students to access lessons at home. Would brick-and-mortar schools cease to exist? Gutenberg's movable type was the physical instrument that tore the West apart.[17] In 1984, MIT Professor Seymour Papert said, "There won't be schools in the future... the computer will blow up the school."[18] Was this true? Was the public school system ready to collapse before a 21st Century reformation of education with new ideas of teaching and accreditation?

Some were saying the public school had lost the power to make children literate.[19] But was the Internet the answer? If the Internet was to work for education, it would have to be used as a well-manipulated, well-moderated tool. Virtual school was not *Internet Education* where a student could go to the Internet to be educated, as if the un-moderated Internet were the teacher. School had a curriculum, a training plan. Virtual education was just school *via* the Internet. The Internet was the medium, not the teacher. It lent itself to "student centered" instruction. But unless the student was a Bill Gates, this self-centered, student led approach did not lead to a genuine literacy without a certified curriculum and a qualified, interactive teacher.

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[16] Barzun, p 63
[17] Ibid, p 4
[18] Quoted from Noll, p 348
[19] Barzun, p 793

Some said education via the Internet was not the answer.[20] The Internet was a world of chaos and distraction for the undirected student. Googleing on "Gutenberg" for example could take one to a café in Richmond or a winery in Germany. Books and the Internet compared. They were both graphic forms of communication. They shared a common drawback in that the uniform finality of the printed word led the innocent to believe that every word so enshrined was true.[21] Without teachers to direct learning, students may have believed much of the nonsense, lies, and urbane legends that permeated the Internet.

One more comparison from the literature of the invention of the printing press with the invention of personal computers and the Internet - Victor Hugo's *The Hunchback of Notre Dame,* set in the late 15th Century. One of the characters, holding his first book, looks up at the cathedral and says, "This will kill that."[22] Well, books did not kill the cathedral. Churches survived. Religions were changed and created from the printed word and so were nations. And the lives of people changed too. At the dawn of the 21st Century, the Internet was having a similar effect, opening doors of high-speed communication globally, bringing people together, and changing lives. Would the computer kill brick and mortar schools as Professor Papert suggested or will it just modify and diversify the public education of tomorrow?

THE ARGUMENT

In *Should Technology Lead the Quest for Better Schools*, James H. Snider argued

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[20] Bracey, p 22
[21] Barzun, p 61
[22] Boorstin, p 485

for the eventual triumph of information-age technology in the process of education but recognized that there were political and professional barriers to be overcome.[23] In the nineteenth century, the Luddites sought to prevent the introduction of new technologies. In retrospect, their destructive naiveté seemed humorous. In the end, technology that was developed, that advanced human quality of life, advanced. Not even religious fanaticism could stop it. So, whether Virtual High School was perceived as a good idea or not, it *would* advance if it improved the quality of life for those who had access to it. In the meantime, there were those who lobbied for and against.

The Pros: The same professor Papert who predicted in 1984 that computers would be the end of brick-and-mortar schools, wrote in 1996 that the computer made possible John Dewey's depiction of learning through experimentation and exposure to the real world.[24] Many believed that, if only the schools could get the best technology and train teachers how to use it, the wonders of the information age would come to K-12 education.[25] Jim Cummins of New York University and Dennis Sayers of the Ontario Institute for Studies in Education, in their book *Brave New Schools*, urged heavy investment in an Internet-wired nationwide school system.[26] Those for the shift to using Information Age technology for education said it was a transition from labor intensive to capital intensive instruction:

> Currently, more than 95 percent of a typical public school's budget goes to teachers; less than five percent goes to instructional capital such as books, software, and computers... Industrial Age education is transportation intensive – the learner must physically travel to the key educational resources. As a result of

[23] Noll, p 349
[24] Noll, p 349
[25] Ibid (Snider), p 350
[26] Ibid, p 348-9

> the high cost of travel, education is geographically bound. Students attend the neighborhood school... In contrast, Information Age education is communications intensive: The learner can access educational resources produced and distributed anywhere in the world. The traditional textbook is now joined by the "virtual course," the "virtual classroom," and the "virtual school.[27]

According to Snider, advocates for the new technology included star administrators and teachers who had the potential for national followings, textbook and software publishers, computer and telecommunications companies, and rural and inner-city homeowners who were faced with inferior quality local schools.[28] Snider said public education via the Internet promoted:

1. Equality. It will be available to all.
   a. Current schools are geographically based, representing the distribution of wealth in America. Conversely, the Internet is everywhere.
   b. Reducing the cost of access will decrease the discrepancy between the information haves and have-nots.
2. Parental involvement in their child's education.
3. Student and intellectual diversity.
4. Socialization. Antagonists of Information Age education say that relations that take place over a network hinder the development of social skills. In fact, the workplace is turning into an interactive, multimedia network. Education is to prepare students for the real world. Athletics, cultural, and academic activities can continue to offer opportunities for traditional socialization.[29]

Snider said the shift to Information Age education was also a shift from small-scale to large-scale production:

> Public schools in the U.S. employ some 6 million individuals, about half of whom are teachers. Tens of thousands of teachers teach similar subjects. Information Age education requires far fewer teachers to achieve the same results. Information Age education also provides for large-scale evaluation and competition, by eliminating geographic barriers. Students choose among many courses and classmates.[30]

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[27] Ibid (Snider), p 350-1
[28] Noll (Snider), p 355-6
[29] Ibid (Snider), p 354-5
[30] Ibid, (Snider), p 351)

Snider went on to discuss today's educator's hindrance to the use of Information Age technology in education:

> One of the classic tales of capitalism is the propensity of new technologies to put people out of work. Witness the decline in the agricultural sector from more than 90% of the workforce in 1800 to less than 3% today. Or consider the loss of tens of thousands of bank-teller jobs with the introduction of the automatic teller machine. Public education differs from these other industries in that it *primarily* responds to political, not economic, forces. Educators have a conflict of interest in implementing Information Age technology (through) public-school unions, teachers in the classroom, education schools, laws and regulations.[31]

The Cons: Neil Postman warned that computer use in education was perhaps a Faustian bargain.[32] Richard P. Lookatch, in *"The Ill-Considered Dash to Technology," The School Administrator* (April 1996) said, "Educational media offer no unique benefits and may well lead to inequity, lower standards, and wasted financial resources." Other books addressing the issue included Janet W. Schofield's *Computers and Classroom Culture* (1995) and Frederick Bennett's *Computers as Tutors: Solving the Crisis in Education* (1999).[33] Some worried that physical isolation would result in "alienation, anti-social actions, or new social pathology... shallowness... superficial interactions with more and more people. And, with more and more persons placing their material on the web, how is an individual to determine what is true or even valid?"[34] Jacques Barzun, in his monumental look at the last 500 years of Western Culture, *From Dawn to Decadence* wrote:

> The Internet, like television and video games, makes a more nerveless mode of existence – sitting and staring – and thus further isolates the individual. It enlarges the realm of abstraction, to command the virtual reduces the taste for the

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[31] Ibid (Snider), p 352-3
[32] Noll, p 349
[33] Ibid
[34] Marcus, and Segal, p 377

> concrete. At the same time, the contents of the Internet are the same old items in multiplied confusion.[35]

If this is so, students who attend virtual school may be so affected. Morris Berman gave his opinion in *The Twilight of American Culture*:

> For every jackass of a dean who is ecstatic about 'distance learning' and who makes no distinction between higher education and marketing, there are a few faculty members willing to stand up to her and tell her that there is no substitute for direct personal involvement and painstaking intellectual apprenticeship.[36]

Berman believed it was all about the money:

> Long distance, computerized learning... is a cancer that is spreading throughout the university system and that represents the extreme commercialization of higher education... There are some signs of a backlash against this trend... but... the players are too powerful to be held off indefinitely: Apple, IBM, Dell, the cable companies, Microsoft, Disney, Viacom, and so on... We are getting education that is watered down and converted to a commodity—a degraded, shadow cybereducation.[37]

Marcus and Segal put it this way:

> Among partisans, The Internet promised to put everyone in touch with everybody else, and convert the world's people to Netizens, ending the tyranny of the nation-state and the global conflicts they engendered. Empowerment through technology alone was their cry and universal access a non-negotiable demand. The Internet's social benefits were to be similar to the printing press; a Renaissance would blossom. Little has actually transpired. Entertainment and information seeking monopolize most computer time.[38]

THE FACTS

In an online survey commissioned by the U.S. DOE through WestEd, a non-profit education research and development agency, conducted in the Summer of 2001, Tom

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[35] Barzun, p 797
[36] Berman, p 69
[37] Berman, p 126-7
[38] Marcus and Segal, p 374-7

Clark estimated that 40,000 – 50,000 would be enrolled in online courses in 2001-2002.[39] Also from the 2001 survey, eight of the 33 respondent virtual schools had started before 1995, 11 between 1995 and 1999, and 14 virtual schools opened for 2000-2001. Most online schools offered courses for transfer into traditional schools. Seven offered their own state-approved diplomas. About half of the virtual school teachers also taught in traditional schools. Florida was providing virtual school to all 67 counties. The survey found 14 states with sanctioned virtual schools in place. Florida Virtual School had an extensive training and mentoring program for new teachers. External evaluations in Florida proved that "virtual education greatly enhances American education."[40] Clark also found that: (1) Most virtual students lived in rural areas; (2) 30 percent of adults polled indicated trust in virtual schools for success, and (3) vendors were participating in the development of virtual schools.[41]

The National Education Association said: "With virtually all schools now linked to the Internet, states, districts, and individual schools are increasingly adopting online courses to expand their curricula."[42] The U.S. DOE National Education Technology Plan of January 2005 titled: *Toward a New Golden Age in American Education, How the Internet, the Law, and Today's Students are Revolutionizing Expectations*, reported: "There has been explosive growth in the availability of online instruction and virtual schools."[43] Nationally, the Plan said 90 percent of children between ages 5 and 17 use

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[39] Clark, p i, 11-14
[40] Clark, p 3, 8, 10
[41] Ibid, p 21
[42] http://www.nea.org/technology/onlinecourseguide.html
[43] Paige, p 7

computers; teens spend more time online using the Internet than watching television; 94 percent of teens use the Internet for school-related research, and 24 percent have created their own web pages.[44] Regarding the "explosion" in e-learning and virtual schools:

> At least 15 states now provide some form of virtual schooling to supplement regular classes or provide for special needs. Hundreds of thousands of students are taking advantage of e-learning this school year. About 25 percent of all K-12 public schools now offer some form of e-learning or virtual school instruction. Within the next decade every state and most schools will be doing so.[45]

In March 2005, the U.S. DOE published results of a survey "on the prevalence of technology-base education courses across the nation."[46] The survey results estimated enrollments of public school students in distance education courses, identified types of technologies used for delivering them, and determined reasons for providing them. Information gathered from the 2002-03 school year found:

1. 36 percent of public school districts had students enrolled in distance education courses.[47]

2. Of the districts with students in distance education courses 59 percent had students enrolled in online courses.[48]

3. Of the districts with students taking online courses, 92 percent had students accessing the courses in the regular school, and 60 percent had students accessing the courses from home.[49]

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[44] Ibid, p 17
[45] Ibid, p 34
[46] Tab, p 1
[47] Ibid, p 4
[48] Ibid, p 10
[49] Ibid, p 46

4. Of the districts with students accessing the online courses from home, 32 percent of the districts provide computers, and 34 percent of the districts provide Internet service to some or all of the students.[50]

5. Reasons cited for having distance education courses included:

   a. Offering course not otherwise offered at the school (80 percent).

   b. Meeting the needs of specific groups of students (59 percent).

   c. Offering Advanced Placement or college-level courses (50 percent).

   d. Reducing scheduling conflicts (23 percent).[51]

A PRAGMATIC APPROACH

The January 2005 U.S. DOE report found that "Progressive teachers, principals, and superintendents understand that today's students, of almost any age, are far ahead of their teachers in computer literacy. They prefer to access subject information on the Internet, where it is more abundant, more accessible, and more up-to-date."[52] But the report also found that "In most schools, it is business as usual. Computers are enclosed in computer rooms rather than being a central part of the learning experience."[53]

For better or (and) for worse, a transition to virtual education was taking place. According to Marcus and Segal, this was because technologies that appeared useful do so because they seem to help an individual achieve separation, distance.[54] The number of universities offering online courses was growing, and some, like the University of

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[50] Ibid, p 48
[51] Ibid, p 14
[52] Paige, p 11
[53] Ibid, p 22
[54] Marcus, and Segal, pp 335-6

Phoenix offered 100 percent of their curriculum online.[55] For primary and secondary education, home schoolers were the ones leading U.S. education into the Information Age. They grew from 10,000 to over 500,000 from 1976 – 1996. They were the leading users of educational technology in the United States.[56] Online college enrollment was mostly by professionals returning to school while continuing to work regular hours.

According to Snider, Industrial Age educators would fight the change: "In the shift from Industrial Age to Information Age education, most educators will lose money, status, and power. They cannot be expected to accept this change without a fight."[57] He concluded by saying "In the long run, they will do no more than slow the implementation of an emerging and vastly improved education system. Not only is the encroachment of information technology into children's lives inevitable, it is critical to their future."[58] Other experts – while seeing many exciting possibilities in computer-based instruction, particularly in the realm of individualization and self-pacing – cautioned that we needed "a far more sophisticated understanding of the process of learning, human motivation, and factors involved in concentration."[59] Some feared the controlling force of computer programs because it could lead to the diminution of the spontaneity and instinctive responses of the learner. The ultimate effect of the new technology could be a "complete transformation of learning and the conception of organized education – but similar predictions were made with the advent of television."[60]

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[55] http://www.uopxonline.com/programs.asp
[56] Noll (Snider), p 355-6
[57] Ibid (Snider), p 350
[58] Noll (Snider), p 355-6
[59] Ibid, p 348
[60] Ibid

Corporate management referred to "making money" in a figurative sense. Where there was investment in time and effort, and a return received, in skills, knowledge, or anything else that signified success, it was said the investment was "making money." If America was transitioning to an Information Age education, it was because *that* education was making money. In other words, public education *was* responding to economic forces. Students were, after all, the property of their parents, and themselves, meaning that parents would pursue the education for their children that gave them the most for their investment of time, effort, and money. And students would too - as William Glasser pointed out when discussing choice theory, "Students will keep quiet, or study (or go Internet for an education), when they believe it is to their benefit to do so."[61]

There were those who exaggerated the immediate impact of Information Age technology on education, and there were those who said the impact was a lot of hype that would amount to little. When the airplane and telephone were invented, their immediate impact was insignificant, yet they grew to become so much of the world. On the other hand, when man landed on the moon, many imagined this small step was to soon be followed by many others. Thirty-six years later, one wondered if any one would again take that giant leap. The question this study sought to answer was, "Will the Internet replace, or at least, fundamentally change the classroom?" The study would determine how much the classroom was being replaced, or fundamentally changed at the time.

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[61] Glasser, p 42

HOW-TO AND WHY

William Glasser's prescriptions for a quality school could be applied to a quality "virtual" school:

> Tests should be completed by students individually or, if they are working cooperatively, by the student teams. The students should continue to work on the test until all answers are correct or satisfactory. While on other assignments the teacher may settle for some improvement, this should not be the case for tests. The standard should be that *no matter how long it takes*, all questions must be answered satisfactorily.
>
> Since there will be much reworking and improving, especially in the beginning, it would be helpful if the school could develop a core of volunteer tutors to help students both individually and in groups. Tutoring is an obvious solution to many of the problems that will arise.
>
> Some schools may decide to put these ideas into place all at once, and others may introduce them one class at a time. My inclination would be to go slowly and introduce them only in classes where both teachers and students accept what has to be done.[62]

The researcher sought instructions and templates for teachers, schools, districts and states interested in starting online education ventures. One instruction found online was an "e-book" by Margaret Gorts Morabito which said "There is a lack of documentation within academia of the development of online distance education. Be assured that online distance teaching is a valid and proven instructional method."[63] According to Morabito, "Administrators and teachers need to know what to expect when planning, operating and teaching in an online school."[64] Morabito was the Director of a distance education program that had been in operation since 1986, and evolved online with the Internet. She found that there was a growth in the number of middle and

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[62] Glasser, p 103
[63] Morabito, p vii
[64] Ibid, p 14

secondary schools that were using distance education to expand their local curriculum, and she concluded that distance education provided a way for the student to continue studying throughout life.[65]

Morabito provided a model for administrators who wanted to begin online schooling, and suggested methods, techniques, and strategies for online teachers. In an e-mail to the researcher, Morabito wrote: (1) Online distance education has a proven track record; (2) There is continual demand from the global community for Internet-based instruction, as well as a public demand for traditional institutions to accept this nontraditional method of study; and (3) Administrators and teachers can economically create and operate an effective Internet-based school that is accessible to and affordable for individual learners using low-cost personal computers.

The U.S. DOE Plan said schoolbooks should "move toward digital content:"

> A perennial problem for schools, teachers and students is that textbooks are increasingly expensive, quickly outdated, and physically cumbersome. A move away from reliance on textbooks to the use of multimedia or online information (digital content) offers many advantages, including cost savings, increased efficiency, improved accessibility, and enhanced learning opportunities in a format that engages today's web-savvy students.[66]

The researcher found that most literature on "virtual" education could be found only in the virtual medium. To read about online education, one would not go to the library, one would go to the Internet. The U.S. Department of Education (DOE), or WestEd, or online high school web sites contained historical and updated information.

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[65] Ibid, p 18
[66] Paige, p 43

California's Choice 2000 website (for example) explained very well the reason there is and should be virtual education.

> The online program: fills a void for parents looking for an alternative to the large public high school or to the long bus rides needed to transport their student to school. We have medically fragile students, highly gifted, and inattentive students who had difficulty in a regular classroom. We have students who are fearful of the conditions in large public schools, and those who have gotten in trouble there. Our program, that leads to a high school diploma and preparation for advanced schooling, offers an opportunity to all, from the convenience and safety of their home.[67]

Compare the transition to digital (computerized) information with the historical transition to organic (paper) information. The 15th century argument against the printed word (or Word) was that it lacked a reliable source (the individual vice the lecturer or ordained minister). In 2004, information was exploding at http sites, and pdf files, and in e-books. This information could be digitally saved and shared, and organically printed. The beginning of the 21st Century had a universal "virtual" library. Expedience and convenience were reducing paper work and printed copy. One could do taxes, renew driver's licenses, and pay bills – online. One could take pictures and share them with friends and family – online. In 2004, one could access a dictionary or encyclopedia electronically. The printed references in many offices had become nearly non-existent. A list of "favorite" websites and a few pdf files saved in "my documents" provided all the references and expert information needed. Indeed, references, once printed, of dynamic information (such as the steady growth of online education) became obsolete in the printing. Tom Clark's online survey provided a very informative snap shot of online

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[67] http://www.choice2000.org/

education at the end of 2001. But what did the online education landscape look like in the 2004/05 school year? This research study hoped to provide a broad picture of online education in each of the United States in 2004/2005.

SUMMARY

Chapter II first compared the proliferation of information on the Internet with the spread of the printed word. Then it reviewed the arguments for or against online instruction. Next came a review of literature on the virtual school trend. Finally the chapter reviewed literature on the how-to and why of virtual education.

Chapter III will discuss the methods and procedures for this study. It will include the populations, the steps, the variables, and the methods of data collection.

CHAPTER III

METHODS AND PROCEDURES

The methods and procedures used to gather the data for this study will be discussed in this chapter. This was a Meta-Analysis, essentially a review of information available on the subject of Virtual High School. The research was not confined to any geographical area. Broadly, this study sought to know the status of Virtual High School in the United States. The World Wide Web was the primary resource, and virtual trails of information took the research through the cyber-space. A descriptive method of research was used and will be explained in the following sub-sections: Population, Instrument Design, Methods of Data Collection, and Analysis of Data.

POPULATION

The population for this study was the schools conducting online classes in the United States. Were research confined to Tidewater area high schools, and were that sample used to make broader conclusions about the status of virtual secondary education in America, this study's conclusions would not be conclusive. There were websites found for every Tidewater area high school, and none of them were found to be conducting virtual classes. If area teachers were using e-mail and their own websites to supplement teaching, it was not public knowledge.

The researcher sought to identify virtual school programs within each state. Most online programs identified themselves by their state or district, though a few "nationwide" schools did not. For consistency in completing the report, the researcher identified nationwide schools by their administrative location (e.g., Virtual High School in Massachusetts). The researcher found virtual high school programs in 41 of the 50

states. He found 66 separate virtual high school programs via web search. Of 66 programs found, 62 responded to the researcher via the long e-mail survey, short e-mail survey, or short telephone survey. Thirty-six of the 62 completed the long e-mail survey. Twenty-four answered the short e-mail survey. Two responded to the short survey via telephone. Of the four remaining programs, one responded to the e-mail only by asking the researcher to call for response to the survey questions, and then did not answer the phone. Three programs did not respond via e-mail or telephone even though the researcher attempted numerous times over a period of one year to eighteen months to contact them. One of these three programs appeared to be active, as their web site reflected the 2004/2005 school year. The two remaining programs appeared to be inactive. They are included as part of the population in this report to give a more accurate picture of online education in the United States. If only active programs the researcher found were included, one might conclude that every virtual program, once started, thrived. The researcher believed a more accurate picture of virtual education included those programs found moribund.

The researcher sought DOE contacts for thirteen states that appeared to have little or no online high school education programs. Via web search he was able to identify phone numbers or e-mail address of DOE points of contact. He was able to contact persons from nine state DOE, six by telephone and three by e-mail. Of those nine, seven indicated that individual schools and districts within their state had virtual instruction, but that the DOE did not keep data relevant to the researcher's survey. The researcher did not assume any number of virtual students where none were given. Four of those seven

states did have online programs that had responded to the researcher's survey, which left nine states for which the researcher could find no numbers of online high school enrollment. Two state DOE indicated that there was no online education in their state. Four state DOE contacts did not respond to e-mails or phone calls from the researcher.

The researcher also found via web search Keewaytinook Internet High School in the Province of Ontario, Canada. This excursion outside the United States was not relevant to the *data* analysis of online schools in the United States, but it provided a great model for the value and methods of successful, enterprising virtual education programs.

INSTRUMENT DESIGN

The primary purpose of this study was to determine if there is a trend to online high school education. To accurately determine this trend, the researcher sought to find all active United States online high school programs, and then specifically determine:

1. The year each program began offering online classes to high school students.

2. The approximate number of students currently taking online high school courses.

Secondary purposes of this study:

3. Determine if the online trend is toward:

   a. Cooperative virtual school programs, where students in a regular school take online classes offered by another regular school or a virtual school, that are accepted by the regular school for credit, or

   b. Virtual schools where students take 100 percent of their classes online.

4. Determine if there are students in one state taking online courses offered by a program located in another state.

5. Determine if online students are completing their online classes more often at home or a public location (i.e., the schoolhouse or a library).

6. Determine the most common reasons to offer/attend on-line classes, for example: physical handicap, geographical location, outside employment, or discipline problem.

7. Identify indicators that online education is a proven successful alternative to traditional education.

If empirical data from an e-mail response differed from that on a website, the researcher chose the e-mail as more authoritative, as the response was viewed as more up-to-date. One e-mail response appeared to contain a misprint. In that case, the researcher went with the web data.

METHODS OF DATA COLLECTION

As stated previously, this study sought to know the status of Virtual High School in the United States. The World Wide Web was the primary resource, and virtual trails of information took the research through the cyber-space. Web search led to Virtual High School sites, which provided program points of contact via e-mail or telephone number. States that did not appear to have online education programs were queried via their DOE.

Step One: Conduct a Web search. Keywords used included: "Internet High School," "Virtual High School," "On Line Education," with varying location of quotation marks. When those leads were exhausted, the researcher went to each State DOE

website, and if Online, Virtual or Internet education were not listed, the researcher contacted a state DOE official directly by telephone or e-mail to determine if online courses were offered in that state.

Step Two: Send an e-mail survey. After extracting pertinent information available from each website, the researcher used the "Contact Us" link on each website to send an E-mail Survey to the virtual school or state DOE staff. See Appendix A for an example of the email survey.

Step Three: Conduct Phone Call and/or follow-up e-mail. The researcher used this method only if no response was received from Step Two. By the time this step was reached, the researcher had enough responses to draw conclusions regarding the secondary purposes of the study. He knew the *reasons for* online instruction. Step Three then, was used to get as much data as possible on the *trend to* online instruction. See Appendix B for an example of the follow-up e-mail or phone call. The director of one of the virtual schools contacted asked the researcher to send these two questions to them in a letter via regular mail. In the final tally, only three of the virtual schools found online did not respond in any way. The researcher believes two of those (The Virtual School at Liverpool in New York, and the Virginia Internet High School) are no longer in business.

ANALYSIS OF THE DATA

Information relevant to the study was collected from the websites, e-mails, and phone calls and tabulated by state, date of program inception, and number of students currently attending. Percentages of out-of-state and full-time virtual students were also

determined from the results received. The information has been placed in table and graphic format in Chapter IV.

SUMMARY

Chapter III presented the methods and procedures that were utilized to obtain the essential data for this study. This was a review of Virtual High School growth in the United States through 2004/05. The World Wide Web was the primary resource. The population for this study was the schools conducting online classes in the United States. This descriptive meta-analysis examined the states with online programs, with dates and population variables.

CHAPTER IV

FINDINGS

The primary purpose of this study was to determine if there was a trend to online high school education in America. The secondary purpose was to describe virtual education programs in America. This chapter will show the results from the review of the literature, web search, e-mail and telephone surveys. These findings will be addressed through this study's research goals. The researcher found that approximately one percent of American high school students are taking courses online. There were 66 separate Virtual School Programs found in 41 states. Of the 66 schools found, 62 responded at least some way to the researcher.

Research Question 1

This research question was to determine if there was a trend to online high school education in America. Through the review of literature and the data collected in this research study, it was determined that:

1. The trend was toward online courses being offered in every public school district. The January 2005 U.S. DOE report said that "about 25 percent of all K-12 public schools now offer some form of virtual school instruction. Within the next decade every state and most schools will be doing so."[68] This research study found that online course alternatives *were* proliferating at secondary schools. The researcher found Virtual School programs in 41 of the 50 states. Sixty-six separate Virtual School programs had begun since 1994. In those eleven years the number of high school students taking online courses grew to nearly 132,000. Of the 66 programs found:

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[68] Paige, p 34

a. Sixty programs reported an increase in student enrollments for 2004/05.

b. Programs from Colorado, Florida, Hawaii, Illinois, Iowa, North Dakota, and Texas had waiting lists, as most programs maintained a teacher-to-student ratio.

c. There were first-year programs in Arizona, Ohio, and Vermont.

d. Only one (from Missouri) reported a decline in enrollment for 2004/05.

e. One (from Wisconsin) will not be offering classes in 2005/06.

f. Four programs (from Georgia, Kansas, New York, and Virginia) did not respond to queries from the researcher. They were assumed to have zero enrolled students in 2004/05.

Of the nine states without virtual programs within their state:

a. Five (Delaware, Montana, New Mexico, Rhode Island, and Wyoming) appeared to have no program *and* no students taking online courses elsewhere. Of those five, only Wyoming had a state DOE representative who responded to the researcher. The Wyoming representative said there were "accreditation barriers" to overcome before Wyoming schools could offer online courses to public education students.

b. Three (Connecticut, New Hampshire, and New Jersey) had schools participating in the Massachusetts-based Virtual High School consortium.

c. The remaining state without a "program" *within its border,* was South Dakota. The researcher was able to contact someone from the state DOE, who said "South Dakota schools and districts provide both synchronous and asynchronous online instruction." The South Dakota respondent did not have statistics, but did say, "The use

of virtual education in the state is growing." The respondent believed: "All state public high schools soon will be offering on-line course alternatives."

The researcher received similar responses from contacts in Arizona, Connecticut, Minnesota (30 percent of Minnesota high schools had online course alternatives), New Jersey, South Carolina, Texas, and Wisconsin. These offerings/enrollments were difficult to quantify for the purpose of this study. They were not virtual schools, and would not be found by web search engines. They were *online* courses offered by regular schools for their students. The Texas Virtual School respondent declared: "We enroll students through their schools...who in turn give students their grades. There are several online opportunities for Texas students through various school districts and universities throughout the state." The researcher believed this was another indicator of online course offerings becoming universal and normal – a paradigm shift.

2. Business partnerships in education were giving the trend momentum and helping to ensure online education was a success.[69]

Numerical results of this research study support these findings. State by state virtual high school listings, with information from websites and survey responses are found in Appendix C. The numbers found in this research represent totals as of the 2004/05 school year. The number of schools and students are only the ones that the researcher could find, so they represent minimums. According to the U.S. DOE National Center for Education Statistics (NCES), there were 14,506,000 high school students for

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[69] Clark, p 21

the 2004-05 school year.[70] According to this research study, there were at least 131,770 virtual high school students in the spring of 2005, so approximately one out of every one hundred high school students were taking online classes.

In this study, the researcher learned the starting date and present populace of each virtual school, so this study could not show the growth in numbers of virtual high school students year after year since education started going online. But considering the first virtual school began in 1994, and there were almost 132,000 high school students taking online classes in 2004/05, the trend should be considered significant.

This research found that the number of *new* online programs had diminished since 2000. The researcher believed this indicated the trend *toward* online education. The year 2000 saw the greatest number of new virtual schools, and one might have deduced incorrectly that online education peaked in 2000 and was leveling off. The researcher believed it more significantly indicated that online education was becoming normalized. In the mid-1990s, virtual high schools were novelties, experiments, and prototypes. The leveling off of new virtual programs was not because all who would be served by online education already were. In fact the numbers of high school students registering for online classes continued to grow exponentially, as indicated by online schools with waiting lists. The leveling off of new virtual-schools indicated that virtual *classes* were becoming part of the *regular* curriculum. A student taking Spanish III in a middle-America high school was registering to take the class either M-W-F, or Tu-Th, or online. The normalizing of online education was also indicated in this research study, not by the number of online

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[70] http://www.nces.ed.gov

students, but by how broadly online classes were being offered. Examples: All of Florida high schools, 82 percent of Idaho school districts, 60 percent of Illinois public high schools, 337 Missouri high schools, All of Utah high schools, over 300 Washington high schools. State by state virtual high school listings, with information from websites and survey responses are found in Appendix C. Numerical results of this research study supporting these findings are found in Table 1 and Figures 1 and 2. The numbers represent totals as of the 2004/05 school year.

Research Question 2

Research Question 2 was to determine if the trend was to cooperative programs, where students attending regular school took some online classes for regular school credit, or virtual schools where students took 100 percent of their classes online for virtual school credit. The research study determined that the trend was primarily to cooperative programs. Of the 66 virtual school programs found in this research, 40 of them (61 percent) were in partnership with public schools at the state, district, or school level to provide online courses to regular school students (usually no more than two courses per semester). The research found that 93,551 (71 percent) of the 131,770 high school students taking online classes were attending regular school and completing only a portion of their education online. Most online classes supplemented the education students received in regular school. In other words, virtual education was not competing against traditional education, but working with it. This was the same conclusion Clark made in 2001, "Instead of replacing conventional schools, virtual schools appear to be

Table 1

Virtual Schools and Number of Students – By State

State	Year Virtual Program(s) Began	Number of Students Attending - Spring 2005	State	Year Virtual Program(s) Began	Number of Students Attending - Spring 2005
Alabama	2000	600	Nebraska	1996 / 2002	100 / 21
Alaska	1997 / 2000	222 / 47	Nevada	2001	545
Arizona	1999 / 2003 2005	500 / 13 / 1	New Hampshire	N/A	N/A
Arkansas	2001	1,200	New Jersey	N/A	2,000
California	1995 / 1999 2001	1,200 / 268 / 500	New Mexico	N/A	N/A
Colorado	1997 / 1998 2001 / 2001 2003	2,000 / 100 / 991 454 / 66	New York	1996 / 2000 2002	11 / 0 / 13
Connecticut	N/A	N/A	North Carolina	1997	510
Delaware	N/A	N/A	North Dakota	1996	1,800
Florida	1997	25,000	Ohio	2000 / 2005	4,000 / 125
Georgia	1999 / 1999	615 / N/A	Oklahoma	2000	900
Hawaii	1996	500	Oregon	1999 / 2000	272 / 578
Idaho	2002	576	Pennsylvania	1999 / 1999	3,100 / 23,000
Illinois	2001	1,145	Rhode Island	N/A	N/A
Indiana	1999	1,500	South Carolina	1998	75
Iowa	2004	545	South Dakota	N/A	N/A
Kansas	1998 / 2001	373 / 39	Tennessee	2003	200
Kentucky	2000	762	Texas	2000 / 2000 2001	2,000 / 750 / 100
Louisiana	2000	2,300	Utah	1994	29,884
Maine	1996	31	Vermont	2005	N/A
Maryland	2003	300	Virginia	2001 / 2001 2002	280 / 0 / 440
Massachusetts	1997	5,634	Washington	1995 / 1996 1999	330 / 700 / 325
Michigan	2000	6,500	West Virginia	2000	1,250
Minnesota	2000	1,000	Wisconsin	2000 / 2003	400 / N/A
Mississippi	2002	337	Wyoming	N/A	N/A
Missouri	1997 / 1998	2,218 / 525			
Montana	N/A	N/A	**Total Virtual**	**HS Students**	**131,770**

Figure 1

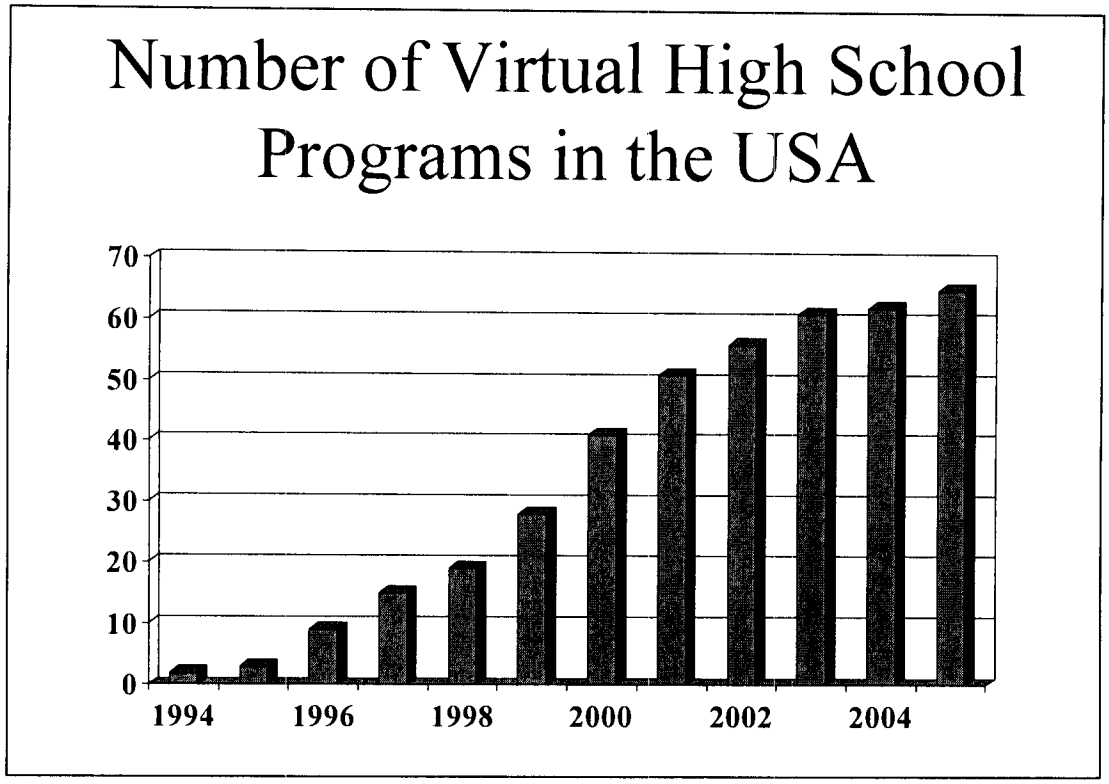
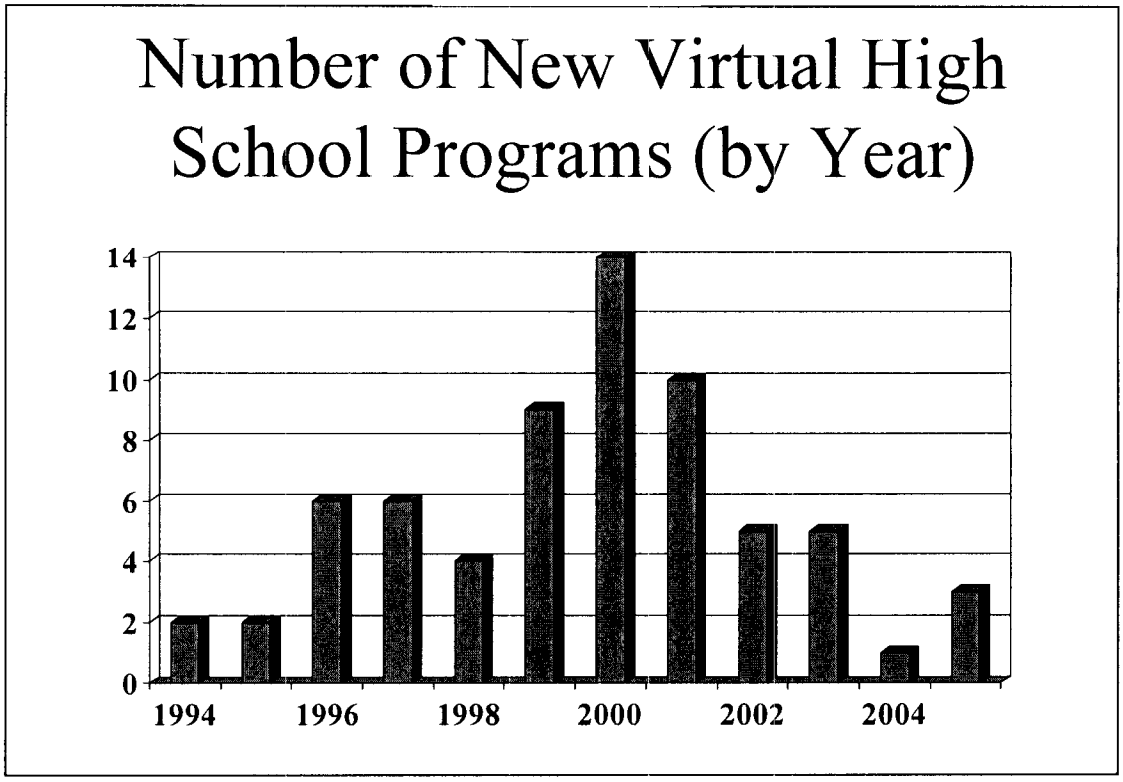


Figure 2



expanding curricular options for students in those schools."[71] Some online high schools had partnerships with universities or other State's programs for online classes.

The findings indicated that 35,152 or approximately 27 percent of the 131,770 students enrolled in online classes were completing all of their secondary education online. But 28,667 or 82 percent of *those* were attending private online schools. Only 490 or one percent of students completing all of their secondary education online were getting *regular* public school diplomas. Table 2 breaks out totals by type.

Table 2

Virtual High School Programs – By Type

Type of Program	Number of Programs	Number of Students	Percent of Total Virtual Students	Number of Students Taking Virtual School Full-Time
Cooperative	40	93,551	71.0	490
Charter	8	5,995	4.5	5,995
Private	12	28,667	21.7	28,667
Unknown	5	557	.4	---
Regular School Online Class	1	3,000	2.3	0
Total	**66**	**131,770**	**100**	**35,152**

[71] Clark, p 21

Research Question 3

Research Question 3 was to determine if the trend was to students residing in one state taking online courses offered by programs located in another state. The research determined that online schools did breach state boundaries, but the majority of virtual classes were in-state. Private online schools typically did not recognize state boundaries. Consortium schools and partner virtual schools provided credit at the regular schools attended by part-time virtual students. The consortium or partner schools were sometimes in another state than the regular school. The most significant example found of a nationwide consortium school was Virtual High School (VHS) based in Massachusetts. VHS had 5,634 students of whom 4,134 (73 percent) were not Massachusetts residents. Keystone National High School in Pennsylvania claimed to have 23,000 students. The respondent from Keystone could not provide information on the *residence* of enrolled students, but said Keystone had had students from all 50 states. From the Keystone website[72] it appeared most Keystone part-time virtual students resided in Pennsylvania, and most full time Keystone students were homeschooled. The nation's second largest virtual school, Florida Virtual School (FLVS), provides online alternatives to every Florida student. FLVS also has students outside the state of Florida. The FLVS respondent said the percentage of the non-resident FLVS students enrolled was small, but the respondent could not tell the researcher the *number* of non-resident students. The researcher found seventeen virtual schools that claimed to be nationwide or even international, but the percentages of students outside the virtual school *home* state were

[72] http://www.keystonehighschool.com/

typically small. Seven of the seventeen virtual schools that claimed to be nationwide could not tell the researcher the number or percentage of students enrolled from other states. Most indicated that out-of-state enrollment was a small percentage of the total. The largest exception to this rule was the school from Massachusetts, a consortium of 324 schools providing part-time online course alternatives to regular public high school students. The total percentage of out-of-state students found was fifteen percent, which only reflects those schools from which residence data was available. Assuming the residence data of nationwide virtual schools from which residence data was not available is the same (overall) as the data from schools that provided residence information, the total number of public high school students taking online classes from another state was about 7,100 or five percent of the total. The nationwide virtual schools are shown in Table 3.

Research Question 4

Research Question 4 was to determine if virtual students were more often completing online classes at home, or at a public location. Respondents from only seven of the 66 programs found indicated that regular school space, time, and a computer were provided to complete the class in school. Those seven programs were from Alabama, Colorado, Illinois, Iowa, Louisiana, Maryland, and Mississippi. These programs served 7,227 students and represented less than six percent of the total online students.

Table 3

Nationwide Virtual Schools

Location of Nationwide School	Number of Participating Public Schools	Number of Schools Outside of Home State	Number of Students Enrolled	Number of Students Outside of Home State	Non-resident Percentage of Total
Arizona*			500		---
California	100	2	1,200	24	2
California*			268		---
Colorado			454	0	0
Florida*			25,000		---
Georgia*			*		---
Indiana			1,500	749	50
Kansas			39	15	38
Massachusetts	324	241	5,634	4,134	73
Missouri			2,218	502	23
Nebraska*			100		---
Oklahoma			900	500	56
Oregon*			272		---
Pennsylvania*			23,000		---
Tennessee			200	15	8
Utah			29,884	200	1
Total**			**42,029**	**6,139**	**15**

* Residence data not available

** Only includes schools with residence data available

Research Question 5

Research Question 5 was to determine the most common reasons to offer/attend on-line classes. Reasons for a regular school district to offer virtual courses included: Relieve the strain of overcrowding, offer advanced courses, offer courses to rural students, and teacher shortages. Forty-five respondents indicated the primary reasons *students* attend online courses. In descending order, those responses were:

1. Schedule conflicts and flexibility. Students take an online course because that is the only way to get a needed or desired course into their schedule. This reason included students working or involved in sports taking online summer school courses and was the number one reason from thirteen respondents.

2. Personal issues keep them out of regular school, for example: Physical handicap, geographically challenged (for some students the regular school is too far away), full time athletic endeavors, full time outside employment, or discipline problem. This was the top reason from nine respondents.

3. Completing advanced placement courses or graduating early. This was the top reason from seven respondents.

4. Taking courses not offered in their regular school. This was the top reason from six respondents.

5. Remediation. Students take online makeup work in order to graduate. This was the top reason from five respondents.

6. Homeschool. These were full-time online students who did not identify personal issues (other than choice) that kept them out of regular school. This was the top reason from three respondents.

7. The cost of going to regular school is too high. This was the top reason from one respondent.

8. Better quality of instruction in the online school. This was the top reason from one respondent.

A good reason to offer online courses came from the first online school found in the web search. Keewaytinook Internet High School, in Ontario, Canada, at http://kihs.knet.ca/, serves aboriginal youth who live in small isolated First Nation communities. There are 15 classrooms spread over 415,000 square miles. Students go to a building that has generators powering computers Internet connected via satellite to teachers. After seeing this ideal reason to have virtual education, the researcher expected rural states, like Montana, Wyoming, Alaska, Maine and New Mexico, would have robust virtual education programs. This study found a general lack of online programs in those states.

Responses to research survey Question 5 were typical. Virtual schools: Provide an avenue for those who did not finish high school previously, improve the quality of education, reach rural students, and meet the need for special learner groups (i.e., gifted students, athletes, and special needs students). They are for students who: Wish to take classes not offered at their school, want extra credit to graduate early, had dropped out and now wish to earn a diploma, need to "make-up" credit, and home-school. "Flexibility" and "Schedule" were the most common responses to the research question, "What is the most common reason to offer/attend on-line classes?" From the Florida Virtual School e-mail response:

Educational Choice - Online learning provides students and families the flexibility to learn any time, any place, any path, and any pace.
Curriculum Options - Every student in the state of Florida has the opportunity to enroll in classes not previously offered at their school, including business, computer sciences, and advanced placement courses.
Engaging - Interactive lessons provide a learning experience far different from the traditional classroom setting. Online students actively share and participate in their education.

Teaches technology skills - By the very nature of how instruction/ interaction take place.

Online school saved commuting time/money for students who live far from school. From the Maryland Virtual Learning Opportunities website, states and school systems were using online courses to:

Expand the *range of courses* and opportunities offered to students,
Offer courses for students when there are *no qualified teachers* to teach the courses locally,
Allow students to take a course when there are *too few students* who need a certain course to be able to assign a local teacher to teach that course,
Provide courses for students who have *schedules that prevent them* from taking a course when it is offered.[73]

Research Question 6

Research Question 6 was to determine indicators that online education was a proven successful alternative to traditional education. Respondent answers to this survey question included:

1. Students who begin an online course have a higher completion rate than regular school students.

2. Students in online courses have higher assessment scores than regular school students.

3. Virtual school teachers are highly motivated experts.

4. National Merit Scholars have come from virtual schools.

5. Students extol the online school experience. It is challenging, demanding, and rewarding.

6. Online courses offer more options for creative, motivated students.

7. Virtual students enjoy a one-on-one relationship with their virtual teacher.

8. Virtual course enrollments are increasing exponentially.

A comment from the respondent at Iowa Learning Online: "It appears that the online teachers are working very hard at building online learning communities, and developing rich, collaborative learning activities that are engaging our students more than the face-to-face classrooms." This may be because the students and teachers were working in a new medium and that made them special. It may also be that working in this virtual medium gave them a freedom of creativity and imagination, and an excitement from research not then experienced in regular classrooms.

OTHER FINDINGS

Virtual School Is Not For Everyone

On this point most agreed. From the Gwinnet County (Georgia) Online Campus:

Are you the type of student who can learn online?
Students who choose to participate in online courses need to examine their personal skills and aptitudes for taking a class online. It is not recommended for a student to take an online class in a subject area of weakness. The following attributes will greatly contribute to a student's success:
1. Self-motivation - Students can direct their own learning environment and methods to fulfill course requirements and achieve individual academic success. Students are responsible for their own learning.
2. Independent learner - The online environment enables students to learn at their own pace, relieving the stress of feeling rushed or pressured and providing enjoyment in the learning process.
3. Computer literate - Although it is not necessary to have advanced computer skills, students should possess a working knowledge of electronic e-mail as well as basic keyboarding skills.
4. Time management - Students must be able to organize and plan their own best "time to learn." There is no one best time for everyone, but the key to learning is to make the time to learn.

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[73] http://mdk12online.org/

5. Effective written communication skills - Students must use electronic e-mail to communicate with their peers as well as the instructors. The ability to write clearly to communicate ideas and assignments is essential. This method provides the learner with rapid feedback as well as a means to inform instructors of any concerns or problems that they may be experiencing.
6. Personal commitment - Since there are no bells that begin and end classes, students must have a strong desire to learn and achieve knowledge and skills via online courses. Making a commitment to learn in this manner is a very personal decision and requires a strong commitment to perform in order to achieve academic success.[74]

Many online schools tried to filter out those who were not good virtual school candidates. The York (Virginia) Virtual High School website (for example) told prospective students to ask themselves the following:

1. Do you feel that high-quality learning can take place in an online environment?
2. Do you have (or are you willing to obtain) access to a computer, the Internet, and e-mail at home?
3. Are you a self-motivated and self-disciplined person?
4. Are you comfortable researching and communicating in writing?
5. Are classroom discussions important to you?[75]

Other Findings

1. State universities administered virtual high school programs in Alabama, California, Indiana, Missouri, Nebraska, Oklahoma, and Texas.

2. State DOE fund virtual high school programs in Alabama, Arkansas, Colorado, Florida, Louisiana, Maine, Maryland, Missouri, Ohio, and Utah.

3. Mentors are provided from the regular school faculty for students attending virtual classes in programs from Alabama, Arkansas, Colorado (two programs), Louisiana, Maryland, Massachusetts, Michigan, Missouri, Texas, and West Virginia. In some cases the mentors were referred to as tutors or on-site coordinators.

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[74] http://gwinnettk12online.net/
[75] http://yorkcountyschools.org/VirtualHS/

4. The only virtual school program that claimed in its website to use no textbooks was one from Alabama.

5. Online high school communication was asynchronous and/or synchronous with teachers, students, and parents via email, web-based system, and online chats.

6. All online teachers were credentialed.

7. Virtual programs that offered 100 percent of education online typically boasted higher academic scores and graduate percentages than traditional programs.

8. Virtual programs boasted lower per-student expenditures than traditional programs.

9. Barriers to success included:

a. Funding – This need not have been a barrier. Funding resources abounded. The U.S. DOE, the NEA, and eSchool News (among others) all listed resources for developing and supporting online programs.

b. Technology – This barrier, was of course, coming down.

c. Politics – Political barriers included those imposed by Teacher's Unions and parochial legislation. These barriers slowed but did not stop progress.

10. An added benefit to virtual education was that online teachers improved their knowledge and research base in the vast information medium of the Internet. No child left behind, and no teacher left behind either.

SUMMARY

In Chapter IV, the research results were examined to answer the questions of the study. The primary purpose of this study was to determine if there was a trend to online

high school education in America. The secondary purpose was to describe virtual education programs in America. Primarily, the researcher found that there is a trend. It is not a trend to virtual school replacing regular school, but it is a trend to virtual course alternatives being offered in every regular school.

In Chapter V, Summary, Conclusions, and Recommendations, the results of the study will be summarized and conclusions and recommendations will be made.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter will first summarize all the information contained in this study, and conclusions and recommendations will be made on the findings. This chapter will have the following sub-headings: Summary, Conclusions, and Recommendations.

SUMMARY

The primary purpose of this study was to determine if there was a trend to online high school education. To accurately determine this trend, the researcher sought to find all active United States online high school programs, and then specifically determine:

1. The year each program began offering online classes to high school students.

2. The approximate number of students taking online high school courses in the 2004/05 school year.

Secondary purposes of this study:

3. Determine if the online trend was toward:

a. Cooperative virtual school programs, where students in a regular school take online classes offered by another regular school or a virtual school, that are accepted by the regular school for credit, or

b. Virtual schools where students take 100 percent of their classes online.

4. Determine if there were students in one state taking online courses offered by a program located in another state.

5. Determine if online students were completing their online classes more often at home or a public location.

6. Determine the most common reasons to offer/attend on-line classes.

7. Identify indicators that online education was a proven successful alternative to traditional education.

This study was completed with the following limitations:

1. Scope: This was a meta-analysis of the scope of virtual high school in America today.

2. Geography: This was a look at virtual high school in the United States.

3. Conceptual: When the Internet is used specifically as a medium for education, then the instruction is "virtual."

4. Methodological: The primary medium of this exploration was the Internet.

5. Inhibitors: Some schools, virtual and otherwise, did not share information. The decision was to conduct a practical research, not a value one.

6. Communication: Some responses to some of the questions could not be compared to responses to the same questions from different respondents, as if they were responding to different questions.

This research proceeded with the following assumptions:

1. Communication and experience were the primary modes of our education. The Internet was rapidly developing as *the* primary universal medium of communication.

2. A transition was taking place.

3. Transition worth pursuing was that which means long term improvement in quality of life.

The methods and procedures for this research were as follows:

1. The population for this study was the schools conducting online classes in each of the United States. For consistency in completing the report, the researcher identified nationwide schools by their administrative location.

2. Meta-Analysis was the instrument design, essentially a review of information available on the subject of Virtual High School. The research was not confined to any geographical area. Broadly, this study sought to know the status of Virtual High School in the United States. The World Wide Web was the primary resource, and virtual trails of information took the research through the cyber-space. A descriptive method of research was used.

3. The methods of data collection were as follows:

a. Step One: Conduct a Web search. When search engine leads were exhausted, the researcher tried to contact state DOE officials directly to determine if online courses were offered in that state.

b. Step Two: Send an e-mail survey. The researcher used the "Contact Us" link on each website to send an E-mail Survey to the virtual school or state DOE staff.

c. Step Three: Conduct Phone Call and/or follow-up e-mail.

4. The analysis of the data gathered in Chapter IV provided the numbers that answered the goals of the research.

CONCLUSIONS

The findings from the web-search, surveys, and the review of literature were analyzed and compared to the goals initially established and are listed below.

Goal 1: Determine the extent of online learning in public secondary education today.

This goal was achieved in finding that there were at least 64 (active) virtual school programs with at least 131,770 students enrolled in the spring of 2005. Beyond meeting that goal the researcher determined there was a trend to offer online course alternatives in every public secondary school district. This researcher could not confirm the January U.S. DOE report that "about 25 percent of all K-12 public schools now offer some form of virtual school instruction,"[76] but he did find out that all of Florida high schools, 82 percent of Idaho school districts, 60 percent of Illinois public high schools, 337 Missouri high schools, all of Utah high schools, and over 300 Washington high schools (for example) offer online instruction. The information gained during this research could not indicate the *percentage* of schools or districts involved in virtual programs in every state. Some states' virtual programs indicated number of districts, some number of schools, some indicated percentages of schools or districts, and some did not keep statistics. Research respondents from the DOE of South Dakota, Arizona, Connecticut, Minnesota, New Jersey, South Carolina, Texas, and Wisconsin could not provide statistics, but indicated the use of virtual education in their state was growing, and they believed all their state public high schools soon would be offering on-line course alternatives. The fact that the Wyoming DOE respondent indicated that online education in her state faces "accreditation obstacles" indicates a value judgment from someone inside the state DOE, i.e., obstacles are meant to be overcome. Conclusion: American public high school will normally have online course alternatives available to students.

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[76] Paige, p 34

Goal 2: Determine if the online trend was toward students taking some online courses while attending regular school, or toward students taking 100 percent of classes online.

This goal was achieved in finding that six percent of the total *public* high school students who are enrolled in virtual courses are completing all of their secondary education online. Sixty-one percent of the virtual school programs found in this research were in partnership with public schools at the state, district, or school level to provide online courses to regular school students (usually no more than two courses per semester). Seventy-one percent of the *total* high school students taking online classes were attending regular school and completing only a portion of their education online. Most online classes supplemented the education students received in regular school. Approximately 27 percent of the students enrolled in online classes were completing all of their secondary education online. But 82 percent of *those* were attending private online schools. Conclusion: The online trend was toward students taking some online courses while attending regular school. Traditional public high schools were not going away. One of the reasons traditional schools would survive is the same reason they came in to being eons ago, they provided childcare so parents could work (or play) unencumbered by kids five days most weeks. Schools were being changed. But the computer was not going to destroy brick-and-mortar schools any time soon. To quote the Massachusetts based Virtual High School (VHS) consortium, which was teaching students in the 2004/05 year from 21 states and nine countries, "Online teaching should augment rather than replace traditional classroom teaching."[77] This opinion was from

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[77] http://www.govhs.org/Pages/WhyVHS-Home click on *Why VHS*).

one of the most successful online high school learning programs. The e-mail response from the Mesa (Arizona) Distance Learning Program said it best, "We believe with all our hearts that the best place to learn is in the classroom interacting with the teachers and other students. But, distance learning is a viable option."

Goal 3: Determine if a significant number of students were taking online courses offered by programs located in states other than the ones in which they reside.

This goal was achieved in finding that five percent of the total virtual school students receiving *public* high school diplomas were enrolled in virtual programs from another state. These online classes were provided in partnership with the local regular public high schools. Students who attended virtual schools in states other than the ones in which they resided were most often home-schooled students attending private virtual schools. Conclusion: Online schools do breach state boundaries, but the majority of public school virtual classes are in-state.

Goal 4: Determine if students were completing their online classes more often at home or a schoolhouse.

This goal was achieved in finding that less than six percent of the total online students were completing their virtual classes in regular school rooms on regular school time using regular school computers. Ninety-five percent of online students had computer and online access to finish assignments at home. Conclusion: Online classes are more often completed at home. The researcher believes this will change as virtual classes become more a part of the regular curriculum and the regular education technology infrastructure.

Goal 5: Determine the most common reasons to offer/attend online classes.

This goal was achieved in finding that flexibility and schedule conflicts were the most common reasons to attend virtual classes (29 percent of respondents). This reason was followed by (in descending order): Personal issues that kept students out of regular school (20 percent), advanced placement or early graduation (sixteen percent), courses not offered in their regular school (thirteen percent), homeschool (seven percent), makeup work in order to graduate (eleven percent), cost and quality (two percent each). Conclusion: Virtual schools provide a viable education alternative when regular classes can not meet the student's need.

Goal 6: Identify indicators that online education was a proven successful alternative to traditional education.

This goal was achieved by fifteen responses to the research survey question: "What, in your opinion, most proves the success of online education?" Responses included:

1. High student course completion rates and assessment scores.
2. Students extol the online school experience.
3. Virtual course enrollments are increasing exponentially.

Conclusion: A description of virtual education programs in America in the 2004/05 school year would include:

- Most were cooperative programs where regular schools offered virtual classes to students they would not otherwise have been able to take.
- Most virtual classes were offered within the student's state of residence.

- Most virtual classes were completed at home, but any online computer could have been a virtual course portal.
- Reasons there was a trend to online instruction included: Overcrowding, teacher shortages, schedule conflicts, personal issues, completing advanced placement courses or graduating early, taking courses not offered in regular school, remediation, homeschool, cost savings, and the quality of online instruction.
- Online education was not suited for every child.

RECOMMENDATIONS

This study sought to determine the nature and progress of online education in secondary school. As the research began in the spring of 2004, it was found that online high school education programs existed and were growing in number and student population, yet some states and the U.S. DOE seemed to know little of them. The researcher determined then to make a primary recommendation that the U.S. DOE conduct its own research study. It turned out that the U.S. DOE *was* completing a study, and reported its findings in January 2005. The U.S. DOE National Education Technology Plan 2004 recommended "states, districts, and schools provide every student access to (online course) options."[78]

The researcher of this study found that online course alternatives are a great opportunity for success and concurs with the U.S. DOE Plan. Based on his findings, it was recommended that:

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[78] Paige, p 42

1. Every state DOE should provide the avenue to virtual school connection and mandate school district cooperation.

a. Establish statewide online high school cooperatives to provide learning opportunities for every student who would benefit from the online alternative. Statewide virtual school teaming has several successful models including those from Florida, Idaho, Illinois, Massachusetts, Missouri, Utah, and Washington.

b. Hire media experts to help teachers, administrators, and curriculum designers carve out appropriate strategies for using new technologies. Use successful models, the growing "how-to" literature, and advice from experienced virtual school experts.

c. Create synchronous and asynchronous alternatives, as well as in school and at home education technology infrastructure to ensure that no child is left out.

d. Hire the teachers best prepared and suited for teaching in the online medium. Make them available statewide, either as regular teachers teaching an online class, or as full time online teachers from home or office. Provide necessary technology to get the job done.

e. Apply for U.S. DOE grants and establish funding partnerships with commercial providers to make this transition.

2. Districts, schools, teachers, and guidance counselors should embrace the trend to online course offerings for high school students.

a. Determine which students should be enrolled in online courses, and enroll them. Train guidance counselors to identity students who are suited for virtual courses as

well as identify virtual courses suited to the student. Eliminate from our education alternative vocabulary the "no" that some courses are not available at our school. Instead if the course is available *anywhere*, and if the student can benefit from taking it, let it be virtually so. If for *any* reason, a suitable student can not take a desired course traditionally, let the guidance counselor enroll them virtually. If it turns out that students do better in virtual classrooms, say "O.K." Do not let teachers unions, politics, or tradition get in the way of what is best for the children. Remember, it is all about the kids.

The researcher also recommended that The U.S. DOE work with state DOEs to conduct an ongoing search for applications, education technologies, and partnerships. Finding and implementing online and other education technologies will help ensure continued success for every district, school, and student.

Finally, the researcher recommended an academic follow-up research to this study in three to five years hence, to see how the trend to virtual education had progressed, to gain new insights and new recommendations for change.

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APPENDIX A

E-MAIL SURVEY

Dear _____,

Hello. My name is Dana Ross. I am a graduate student at Old Dominion University in Norfolk, Virginia, completing a Master's Degree in Technology Education. The topic of my research is the current and projected use of the Internet as a medium for conducting public high school education.

You would greatly help my research study if you could return e-mail your answers to the following:

1. What year did program name begin offering online classes to state name high school students?
2. What is the approximate number of students currently taking program name online high school courses?
3. What is the approximate number of state name high schools with students taking program name online courses?
4. Approximately what percent of your students complete 100 percent of their high school education online?
5. Approximately how many students residing outside of state name are taking program name high school courses?
6. Do program name students complete their online classes more often at home or a public location (i.e. the school house or a library)?
7. What, in your opinion, is the most common reason to offer/attend on-line classes (i.e. physical handicap, geographical location, outside employment, discipline problem...)?
8. What, in your opinion, most proves the success of online education?

Thank you for your time and any responses.

APPENDIX B

FOLLOW-UP E-MAIL OR PHONE CALL

Dear Sir or Ma'am,

Hello. My name is Dana Ross. I am a graduate student at Old Dominion University in Norfolk, Virginia, completing a Master's Degree in Technology Education. The topic of my research is the current and projected use of the Internet as a medium for conducting public high school education.

It would be greatly helpful to me if you could you please take a moment to return e-mail answers to the following:

1. What year did program name begin offering online courses to high school students?
2. Approximately how many high school students are currently enrolled in program name?

Thank you for your time and responses.

APPENDIX C

VIRTUAL HIGH SCHOOLS IN THE UNITED STATES

State-By-State Listing with Information from Websites, e-mail, or Telephone Call

(Notes in quotations are from e-mail or telephone response.)

Alabama – Alabama Online High School (AOHS)
Website: http://www.aohs.state.al.us/
Began: January 2000 (Created at the University of Alabama)
Current Enrollment: 600 (400 of those are remedial students)
Notes:
1. In partnership with public schools, AOHS does not currently offer a full diploma program
2. All materials are web-based, so no textbooks are required.
3. Students' regular school supplies an onsite (face-to-face) mentor from the regular faculty.
4. Applicants to be e-teachers must complete e-teacher training. Some AOHS teachers are retired school teachers and some supplement regular teaching jobs as e-teachers.
5. Every Internet-ready computer in a school can become an AOHS classroom; no additional hardware or software is required. Thanks to a combination of state and federal funding initiatives, schools already have the broadband connections necessary for delivering quality e-learning to Alabama students.
6. 88 Alabama high schools have participated in the AOHS program.

Alaska (1) Delta Cyber School
Website: http://www.dcs.k12.ak.us/
Began: 1997
Current Enrollment: 222
Notes:
1. A charter school.
2. Uses *Blackboard* asynchronous and *E-luminate* whiteboard synchronous technologies.

Alaska (2) SeeUOnline
Website: http://www.seeuonline.org/
Began: 2000
Current Enrollment: 47

Arizona (1) Mesa Distance Learning Program (MDLP)
Website: http://www.mdlp.org
Began: 1999
Current Enrollment: 500
Notes:
1. MDLP is a nationwide program, sponsored by Mesa public schools. Out-of-state students are charged a fee.
2. 25 different high schools in Arizona have students enrolled in MDLP.
3. There are also students enrolled from other states as well as England, Mexico, and Spain.
4. 98 percent of coursework is done at home.
5. "E-Learning is another option provided by our school district. We have many families (and growing) with students online including those with medical issues. We have kids that are scared to death to go on a large high school campus for fear of being beat-up. For these families, e-distance learning is a godsend. I could go with different students who would not be able to graduate except for this alternative. We also

believe, with all our hearts, that the best place to learn is in the classroom interacting with the teachers and other students. But, online learning is a viable option for some students."

Arizona (2)

Notes:

1. In 2003, Arizona virtual education began to expand (see http://www.sequoiachoice.com/new/index.php). There are now 12 schools in seven districts with "Technology-Assisted, Project-Based" online classes.
2. Tucson Unified School District began their own online high school in January 2005 with one student.

Arkansas – Arkansas Virtual High School

Website: http://arkansashigh.k12.ar.us/
Began: Fall 2001
Current Enrollment: 1200
Notes:

1. Program funded by the Arkansas DOE.
2. "We only supplement the public schools needs for lots of reasons. Maybe the student is homebound for health reasons, unable to fit a class into a busy schedule due to music or sports, needing to make up a failed class, etc. For students that are highly motivated the program works well. For students that need a lot of pushing, however, we are not quite as successful. We do require school districts that participate to provide a site coordinator to assist the students when necessary. As with all things, we have some schools that do a great job with that and others that do not. The stronger the adult support, the greater the percentage of success."
2. From the website: The purpose of the Arkansas Virtual High School is to provide an online alternative learning environment for the students of Arkansas' public schools who need assistance in completing coursework that is difficult to receive due to factors such as schedule conflicts, homebound due to extenuating circumstances, and other factors that might impede a student's progress through grades 9 - 12.

California (1) University of California College Prep Online (UCCP)

Website: http://www.uccp.org/
Began: 1999
Current Enrollment: 1,200
Notes:

1. Students from 100 California high schools participating, and 2 schools from outside of California.
2. Supplements regular high school only.

California (2) Choice 2000 Online High School. Perris Union High School, Riverside County

Website: http://www.choice2000.org/
Began: 1995
Current Enrollment: 268
Notes:

1. Enrolled students take all their classes online. Uses *white board* technology.
2. Free to students in Riverside and four adjoining counties. Open to students outside of California.
3. One of the best I found. Exemplifies technology-based virtual education. See the overview at http://www.choice2000.org/overview.htm
4. Choice 2000 also sponsors a variety of school activities such as dances, field trips, picnics, and other activities designed to bring students together socially.
5. Classes include Shakespeare and Physical Education (5 hours of PE per week minimum).
6. Parents are expected to check student' progress biweekly.
7. The student must log in daily and spend several hours on the computer, or face truancy charges.

California (3) Clovis Unified School District, Clovis Anytime Learning (CAL)

Website: http://www.cusd.com/
Began: June 2001.

Current enrollment: 500
Notes:
1. Classes are asynchronous.
2. Most courses are leased from Florida Virtual School
3. CAL will not have online school available in the summer of 2005.

Colorado (1) – Colorado Online Learning (COL)
Website: http://www.col.k12.co.us/
Began: 1998
Current Enrollment: 2,000
Notes:
1. A consortium of school districts that offers supplemental courses. There are currently 70 school districts participating in COL.
2. "Allowing high school students to receive a variety of instructional opportunities from other teaching professionals in the state while remaining enrolled in their local school district. This cooperative model provided advanced placement, remedial, and enrichment courses to students who did not have access to a variety of learning opportunities or who needed greater scheduling flexibility."
3. A Quality Assurance Program (QAP) provides guidelines for the development and revision of quality online courses and calls for course review by content and online pedagogy specialists.
4. Federal Enhancing Education Through Technology (e2t2) funding in the amount of $700,000 was awarded in October, 2002.
5. Most online coursework is completed at the student's regular school. Schools provide an on-site coordinator.
6. Districts pay COL $100 - $200 per student per semester.
7. A new COL project is the Online Poetry Project (OPP), a program designed to empower and inspire student writers. The project brings accomplished poet-educators in direct contact with Colorado high school students. This year will witness the launch of the OPP Online Poetry Club, an informal community of writers that will include a faculty advisor, award-winning "resident" poets, and student peers from across Colorado
8. What, in your opinion, is the most common reason to offer/attend on-line education? "The two top reasons are: 1) students seeking expanded offerings, 2) students seeking a different education delivery model."

Colorado (2) - Monte Vista Online Academy (OLA)
Website: http://monte.k12.co.us/
Began: 1997
Current Enrollment: 100
Notes:
1. Monte Vista High School students are assigned as "peer tutors" to OLA students.
2. OLA students complete 100% of high school education online, at home.
3. "Monte Vista OLA assessment scores are higher than most other state alternative schools."
4. "Students come to us because their local traditional school is either unable or unwilling to accommodate their individual needs."

Colorado (3) Branson School Online
Website: http://www.bransonschoolonline.com/
Began: 2001
Current Enrollment: 991
Note: Students complete 100% of high school education online.

Colorado (4) Rocky Mountain eSchool (RMeS)
Website: http://rmes.org/index.php
Began: 2001

Current Enrollment: 454
Notes:
1. Students complete 100% of high school education online.
2. Curriculum is mastery based.
3. "We anticipate over 1,000 students next year. We have just signed up 30 new schools in Colorado. RMeS is now going nation wide."

Colorado (5) Karval Online Education
Website: http://www.karvalonlineeducation.com/
Began: Spring 2003
Current Enrollment: 66
Notes:
1. Students complete 100% of high school education online.

Connecticut – See notes
Website: None
Began: N/A
Current Enrollment: Unknown
Notes:
1. I could find no Connecticut-based online high school, but according to the state DOE: "Many districts allow their students to participate in online courses with commercial providers, the Department of Education does not ask districts to report this information."
2. I did find that there are 28 Connecticut high schools involved in the Concord, MA based Virtual High School (VHS) consortium.

Delaware – See notes
Website: None
Began: N/A
Current Enrollment: None
Notes:
1. I could find no programs in Delaware, nor indications that any Delaware students or schools participate in programs centered elsewhere. I tried to contact two different persons at the state DOE, and received no response from them either.
2. I did receive a response from the a representative of "University of Delaware Online," who stated "I do not know of any high school online courses offered in the state of Delaware."

Florida - Florida Virtual School (FLVS)
Website: http://www.flvs.net/
Began: 1997
Current Enrollment: 25,000 (70 percent public school, 23 percent home school, 7 percent private school)
Notes:
1. The nation's first legislatively funded online educational institution. From the website: Florida Virtual School, an internet-based public school, offers a rigorous online curriculum for middle and high school students. Our fully accredited, award-winning program serves thousands of students around the globe!
2. Priority is given to serving Florida students in rural and low-performing schools.
3. 150 faculty members. 21of its faculty members are National Board Certified
4. Operating cost of providing services is projected to be less than the traditional public school.
5. 9,900 students were enrolled in the 2002/3 school year. Projected enrollments for 2003/4 was 15,000, actually, 21,000 enrolled.
6. FLVS provides free online classes and instruction to all public, private, and home school students in Florida. All you need is the right attitude and access to a computer with Internet services. If you live outside of Florida, classes are available on a license or tuition basis.

7. Most students take one or two online courses to fill a need not met in their own school.
8. Most remote student: Shanghai, China.
9. What, in your opinion, is the most compelling reason to attend FLVS classes? "Our students report a variety of reasons for taking FLVS classes. Flexibility of schedule is among the most common responses.
10. What, in your opinion, most proves the success of FLVS? "Without hesitation, our teachers prove the success of Florida Virtual School every day. The most important job at FLVS is hiring. Our staff is extremely motivated to go beyond normal expectations. They are visionaries... pioneers, if you will. Each one believes s/he is contributing directly to the future of education. Every decision within the organization is completely driven by the needs of our students. The system is constructed around the student's ability to communicate with his/her instructor (via email, pager, cell phone, office hours, monthly calls/progress reports, synchronous chats, open houses, timely feedback, etc.). They are limited only by the technology, which has become significantly efficient in connecting people for the purpose of sharing ideas."

Georgia (1) - Gwinnett County Online Campus (GCOC)
Website: http://gwinnettk12online.net/
Began: Spring 1999 (1 course and 17 students)
Current Enrollment: 615 (enrollment doubles in the summer semester)
Notes:
1. Most students reside in Gwinnett County. Others may attend for a fee.
2. Most GCOC courses are completed at home.
3. Many school districts in Georgia use online learning to some degree: Cobb County offers a similar program to Gwinnett. There are smaller programs in Dekalb, Fulton, Forsyth, Columbia, Henry, Muscogee, and Clayton counties.
4. What, in your opinion, is the most compelling reason to offer/attend on-line classes? "Gwinnett County is large (geographically and population) and the convenience of taking courses from home certainly alleviates the issue of having to drive long distances to attend a course for enrichment or remediation--so convenience is a huge reason. Some of our advanced placement students take online courses to help with scheduling issues at the local school. But I would say the most "compelling" reason that students take online courses is the desire to remediate or "make up" a failed class for credit or to enrich or "get ahead" in a curriculum area to make room in their schedule for other courses."

Georgia (2) Intelligent Education, Inc. (IEI)
Website: http://www.intelligented.com
Began: 1999
Current Enrollment: Unknown
Note: This program claims to be nation-wide, and though based in Georgia I found indication that there are students living in New Mexico taking IEI courses. My e-mail respondent asked me to call them, which I did repeatedly, but only got their answering machine.

Hawaii - Hawaii E-School
Website: http://www.eschool.k12.hi.us/
Began: 1996
Current Enrollment: 500
Notes:
1. Students are allowed to take up to two classes online.
2. Most online work is done at home.
3. "Top reasons students sign-up: Accelerate graduation; class not offered regularly; schedule."
4. "There are wait lists for 80% of online classes (teacher to student ratio kept at 26:1)."

Idaho - Idaho Digital Learning Academy
Website: http://idla.k12.id.us/
Began: October 2002
Current Enrollment: 576

Notes:

1. Student participants from 82 percent of Idaho school districts.
2. Top reasons for taking: "Credit recovery, schedule conflicts, and early graduation."
3. Currently 52 courses are offered.
4. 49 teachers, 27 with graduate degrees. All state certified.
5. For me, this was a hard to find website... Very informative on the state's "virtual" high school program.

Illinois – Illinois Virtual High School (IVHS)

Website: http://ivhs.org/index.learn?bhcp=1
Began: January 2001
Enrollment: 1,145 in the fall of 2004 (50% increase from last year)
Notes:

1. "1 or 2 'special case' students receive 100% of education on line.
2. 80 percent of online students have regular school class period to work on IVHS course.
   85 percent also spend time on course at home.
   7 percent also spend time on course at library.
3. Top three reasons students take IVHS courses: More flexible; not regularly offered class; schedule conflict.
4. 60 percent of Illinois public high schools offer IVHS classes.
5. We have a 75-80 percent course completion rate."

Indiana (1) - Indiana Web Academy

Website http://www.indianawebacademy.org/
Began: N/A
Current Enrollment: None
Notes:

1. Not "online" classes per se' but online resources for teachers, students, and parents, in an Indiana state DOE website. Excellent site with links to many others.

Indiana (2) - Indiana University High School (IUHS):

Website: http://scs.indiana.edu/hs/highschoolcourses.html
Began: 1999
Current Enrollment: 1,500 (almost half are not Indiana residents).
Notes:

1. Online courses offered by Indiana University, approved by the Indiana DOE, accredited by the North Central Association. 100 high school courses currently offered. Anyone, from anywhere may attend.
2. Currently employs 43 Indiana licensed high school teachers.
3. Fees for each course total approximately $180, not including books.
4. What, in your opinion, is the most compelling reason to offer/attend on-line classes? "Many independent study students, they do not find a 'comfort' level in a traditional public high school. We also have a number of dancers, musicians, athletes and actors who find difficulty with schedules to attend a traditional high school."
5. Example of program success – "IUHS has its first National Merit Scholarship finalist this year and has had a semi-finalist."

Iowa - Iowa Learning Online (ILO)

Website: http://www.iowalearningonline.org/
Began: June 2004
Current Enrollment: 545 (from 42 Iowa districts)
Notes:

1. This new program is a network created under state DOE guidance to assist local schools that want to extend their students' learning with online instruction.
2. Most online classwork is completed in the schoolhouse.

3. What, in your opinion, is the most compelling reason to offer/attend on-line classes? "The number one, overwhelming driving force behind students taking online classes in our state is 'inflexibility' issues. Online learning appears to be one solution for this obstacle."
4. What, in your opinion, most proves the success of online education? "On the surface, I am seeing a strong, steady growth in numbers. Looking deeper, I am hearing students say that their online instruction is more engaging, more creatively presented, and more academically challenging, than is their more traditional classroom learning. And that surprised me. It appears that the online teachers are working very hard at building online learning communities and developing rich, collaborative learning activities that are engaging our students more than the face-to-face classrooms. And that is both exciting and sad."

Kansas (1) Basehor-Linwood Virtual School (BLVS) charter school
Website: http://vcs.usd458.k12.ks.us/
Began: 1998
Current Enrollment: 373
Notes:
1. Combination virtual school and home school. Basehor-Linwood District provides curriculum, certified support staff, standardized assessments, textbooks, resource materials, and a computer. The program functions as a partnership with parents who choose to act as their child's primary teachers.
2. Certified Support Staff provide online support to assist with instructional methods and assessments.
3. Includes password protected chat rooms, discussion board, online tests, online student management system, and student status and email systems.
4. Home schooled students using BLVS earn regular high school diploma. Approximately 30 percent of graduates never attend traditional school.
5. From the assistant director: "A virtual learning setting does not prove to be successful for all students, but a traditional setting is not what all students need either."

Kansas (2) Elkhart Cyber School (ECS)
Website: http://onlineecs.org/
Began: 2001
Current Enrollment: 39
Notes:
1. Courses offered include "Street Law," and "Web Design"
2. Cost is $175 per semester course.
3. Most ECS students complete 100 percent of education online.
4. There are currently 15 students residing outside of Kansas attending ECS high school.
5. Most common reason to attend high school online – "Flexibility. Many students have jobs."
6. What, in your opinion, most proves the success of online education? "Nearly all of the students who have graduated from our program over the past three years most likely would not have finished school if they had not found our program. We feel we offer an option for some students that allow them to remain connected to caring teachers and finish their education."

Kansas (3) Virtual Greenbush
Website: http://www.virtualgreenbush.org/
Began: Unknown
Current Enrollment: Unknown
Note: Didn't respond to repeated e-mails or phone calls.

Kentucky - Kentucky Virtual High School (KVHS)
Website: http://www.kvhs.org/
Began: 2000
Current Enrollment: 762
Notes:

1. Through the KVHS, Kentucky schools can provide students with access to a wider range of coursework, with more flexibility in scheduling, with the opportunity to develop their capacities as independent learners, and with increased time and opportunity to achieve because learning online is neither time nor place dependent.
2. Offer students access to advanced courses or electives that are not taught at the local public high school.
3. Offset teacher shortages, especially in the foreign languages.
4. Offer a wider range of Advanced Placement courses.
5. Reduce costs to deliver specific courses to small numbers of students.
6. Find solutions that respond to the needs of individual learners in unique situations.
7. All KVHS faculty are certified at the secondary level by the Kentucky Office of Teacher Education and certified in the content area of their course.
8. KVHS teachers receive special training and education to prepare them for teaching online, and are actively supported throughout the length of the course to ensure that they are successful.
9. KVHS class sizes do not exceed 25 - 30 students. Each section of students has a single instructor for the duration of the course. In addition to teacher-to-student interaction, KVHS courses emphasize student-to-student interaction and group work. Students are able, however, to pace their learning and manage their progress through the course.
10. All KVHS students are required to take their final course exam with a certified proctor.
11. Taking a course online requires personal discipline and good time management. Students should also be comfortable using the Internet and e-mail. Students may expect spend more time taking a KVHS course than they typically devote to a traditional high school class.
12. Students in at-risk situations have been very successful in KVHS courses.

Louisiana - Louisiana Virtual School (LVS)
Website: http://lvsportal.doe.state.la.us/
Began: 2000
Current Enrollment: 2300
Notes:
1. Partnership with Louisiana DOE. Classes are free of charge to students.
2. Students enrolled have facilitator at their regular public high school
3. Public high schools in this program provide in-school computers and online accounts for Virtual students, so courses may be completed during regular school hours. Approximately 5 percent of students attend virtual class from home.
4. Credit is granted and posted by the student's home school. The LVS is not a credit granting institution.
5. "The primary reason given to attend LVS is to take a course not offered in the student's regular school."

Maine (1) ECO 2000 Cyberschool Consortium
Website: http://www.eco2000.org/cyberschool/index.htm
Began: 1996
Current Enrollment: 31
Notes:
1. Reaches remote areas of Maine. Reminds me of the Canadian KIVS program.
2. According to the Director, ECO 2000 needs more State financial support.

Maine (2)
Notes:
1. The State DOE representative I spoke with says Maine schools use different Virtual High School (VHS) vendors and there is currently no statistical data kept.
2. Three ME high schools are involved in the Concord, MA based VHS consortium:
3. An alternative to asynchronous online education is school via video conferencing, or "teletechnet." The Maine Distance Learning Project at http://www.mainedistancelearningproject.org/ provides students throughout the state of Maine with educational opportunities that they might not otherwise have access to due to geographical location.

Maryland - Maryland Virtual Learning Opportunities (MVLO)
Website: http://mdk12online.org/
Began: 2003
Current Enrollment: 300
Notes:
1. Managed by the Maryland State DOE, in collaboration with local school systems, with school Site Coordinators.
2. Students may take a course through MVLO only with the permission of their local school principal.
3. Not offered to non-residents, and no MVLO students complete high school online.
4. Most coursework is completed in school.
5. Most compelling reason: "Equity of access for students to courses and highly qualified teachers."

Massachusetts (1) Virtual High School (VHS)
Website: http://www.govhs.org/website.nsf
Began: 1997
Current Enrollment: 5,634 (1,500 are Massachusetts residents)
Notes:
1. A collaborative virtual school, physically located in Maynard, MA. To join VHS, the member school MUST offer one teacher to facilitate one NetCourse per semester to students in the collaborative. Participating schools can enroll up to 25 students per semester in any of VHS's online courses, for every VHS facilitator they provide.
2. VHS has students in 27 states and 24 foreign countries
3. There are 324 participating schools, 83 are Massachusetts high schools (as a point of reference, 4 are Virginia high schools).
4. Offers over 200 courses, tailored to state or country requirements. Examples include: "Gods of CNN: The Power of Modern Media" (offered to 11th and 12th graders at Heritage high School in Newport News, Virginia, among others), "Contemporary Irish Literature" offered to Boston high school students and "Caribbean Art History" offered in the Dominican Republic.
5. Results: 95% of students taking VHS courses complete their course.
6. A student can take up to three VHS courses in a semester.

Michigan – Michigan Virtual High School
Website: http://www.mivhs.org/
Began: Fall 2000
Current Enrollment: 6,500
Notes:
1. MVHS doesn't independently grant diplomas or course credit but, instead, works in cooperation with individual school districts.
2. Several times each year, MVHS will offer "on-line teacher" courses consisting of one face-to-face meeting and six weeks of online learning. Teachers who have completed the course are recruited first to become online instructors for MVHS
3. Schools engaged in MVHS have "onsite Mentor/Teachers" who serve as liaisons between the school, the student, and the online instructor. The onsite Mentor is part of the instructional team for the MVHS student, along with the online instructor and the parent. The Mentor is a "friendly adult nag" (FAN).

Minnesota – See notes
Website: http://education.state.mn.us/html/intro_online_learning.htm
Began: 2000
Current Enrollment: 1,000
Notes:
1. According the state DOE: "Public high schools are offering classes online individually, with no statewide or consortium online program." From the Minnesota Department of Education website:

Minnesota students are taking advantage of online opportunities. Currently, more than a dozen school districts in Minnesota offer substantial online learning programs and more than 30 percent of schools offer at least some courses online.
2. 750 – 800 of currently enrolled students are completing 100 percent of high school education online.
3. The State DOE recognizes 15 state K-12 online education programs
4. In 2004 a teachers union brought suit against the state Commissioner of Education and DOE, challenging their approval of one of these programs, the Minnesota Virtual Academy. The district court judge ruled against the case. See http://education.state.mn.us/html/072587.htm

Mississippi - Mississippi Online Learning Institute (MOLLI)
Website: http://molli.mde.k12.ms.us/
Began: 2002
Current Enrollment: 337
Notes:
1. Administered by the Mississippi DOE.
2. 19 Mississippi high schools are participating.
3. There is a fee of $550 per semester course. The local school district may decide to assume the costs of the course or may require the student to assume the cost.
4. Each participating high school must identify a contact person that is responsible for providing MOLLI services at the local school.
5. E-College is the vendor selected to provide the MOLLI platform.
6. MOLLI will enable public schools to support:
· Students who are unsuccessful in the traditional classroom setting
· Students who are unable to attend school for medical or other reasons
· Students who are interested in taking Advanced Placement courses or other courses not offered in their school
· Students who need intervention or accommodations or are in alternative schools
7. 90 percent of MOLLI online coursework is completed in the regular schoolhouse.

Missouri (1) University of Missouri-Columbia High School (MU High School)
Website: http://cdis.missouri.edu/MUHighSchool/HShome.htm
Began: 1997
Current Enrollment: 2,218 (1,716 Missouri students)
Notes:
1. "During 2003/2004 there were 408 MO high schools that had enrollments. There are 337 as of 2/28/05."
2. "Online education is an option for homeschool students, rural students, students seeking college preparation, gifted students seeking challenges, or students who need to catch up on a few courses. MU High School offers a diverse and comprehensive curriculum," that includes over 180 courses.
3. Internationally offered. "Has had students from all 50 students and approximately 2 dozen foreign countries."
4. What, in your opinion, most proves the success of online education? "The ability to provide students with more options than ever before. They can literally take courses from anywhere they want and work on their coursework at any time they want! Students can use online courses to combat scheduling problems, to take courses they can't get at their high school, make up credit to graduate on time, graduate early, earn an accredited high school diploma, or explore gifted courses for enrichment purposes. Online independent study courses are a very convenient and flexible option for students."

Missouri (2) Missouri Virtual School
Website: http://mvs.smsu.edu/
Began: 1998
Current Enrollment: 525
Notes:

1. Class fees are paid by the local (regular) school that virtual students attend. Regular schools must provide a facilitator for virtual students.
2. There are 33 participating Missouri public school districts.

Montana - See note
Website: None
Began: N/A
Current Enrollment: None
Note: I could find no programs in Montana, nor indications that any Montana students or schools participate in programs centered elsewhere. I tried to contact persons at the state DOE, and received no response.

Nebraska (1) – University Of Nebraska Independent Study High School (ISHS)
Website: http://eeohawk.unl.edu/ishs/
Began: 1996
Current Online Enrollment: 100.
Notes:
1. An internationally offered program: Has had students from all 50 states and 135 countries outside the U.S. Over 150 Nebraska schools currently have students enrolled in the Independent Study High School (most classes are not yet offered online).
2. An accredited program, students who complete 100 percent of their education through ISHS are considered home-schooled.
3. What, in your opinion, most proves the success of online education? "The course makes a huge difference, at the ISHS, curriculum is developed by a unit within the University system that is responsible to develop courses for distance delivery. The teachers also make a huge difference in the success of the student. A course can not effectively teach itself. Someone locally, who is able to keep the student on task is also important to student success. The delivery system, servers, Internet, all has an impact on student success. Of course, you also have to consider the individual student. A student who is not somewhat self-motivated will not see the same success as the student who is. High maintenance students will struggle in any learning environment."

Nebraska (2) – Westside Virtual High School
Website: http://wvhs.westside66.org/policies/background.html
Began: 2002
Current Enrollment: 21
Note: Uses "Class.com" curriculum.

Nebraska (3)
Note: According to a State DOE contact, "There are no online high schools in Nebraska."

Nevada – Odyssey Charter High School
Website: http://www.odysseyk12.org/HS/
Began: 2001
Current Enrollment: 545
Notes:
1. Enrollment for fall 2005 will be 720.
2. Offered to Clark County (Las Vegas area) high schools only.
3. One day of "face time" in school classes per week. Remainder of course work and interaction is online.

New Hampshire – See Note
Website: None
Began: N/A
Current Enrollment: N/A

Note: Though there are no online high schools located in New Hampshire, ten NH high schools are involved in the Concord, MA based Virtual High School (VHS) consortium.

New Jersey – See Notes

Website: None

Began: N/A

Current Enrollment: 2,000 (est.). A State DOE contact says there are approximately 7,000 New Jersey public K-12 students taking online courses.

Notes:

1. According to the state Department of Education contact, New Jersey high schools are offering classes online individually, but there are no "Virtual" school programs per se.
2. Six NJ high schools are involved in the Concord, MA based Virtual High School (VHS) consortium:

New Mexico - See note

Website: None

Began: N/A

Current Enrollment: N/A

Note: I could find no programs in New Mexico, nor indications that any New Mexico students or schools participate in programs centered elsewhere. I tried to contact persons at the state DOE, and received no response.

New York (1) Babbage Net School

Website: http://www.babbagenetschool.com/index_home.html

Began: 1996

Current Enrollment: 11 (not including students tutored online)

Notes:

1. "Access to the Internet is reaching the point where it can be considered universal.
2. We do not believe traditional brick and mortar school will be replaced. It is better to have students and Instructors in the same room at the same time, sharing a common interest in a subject. This way of conducting lessons has been around since the time of Aristotle and Plato and it will be around for some time to come! The Babbage Net School advocates attending classes in a classroom with a teacher whenever possible. A special synergy develops in a properly run classroom with every student benefiting from the interchange between the teacher and the class as well as between class members. But, if this is not possible due to fiscal, physical or social reasons, then we will do our best to provide the closest approximation to the actual classroom and actually enhance the delivery of instruction by using the Internet whenever possible.
3. We have 11 students in full year credit courses, about 600 in tutoring programs and about 400 teachers in professional development courses."

New York (2) Francis School

Website: http://www.francisschool.net/

Began: 2002

Current Enrollment: 13

Note: Accredited by New York DOE, only students over the age of 18 may receive a diploma from Francis School. Francis School is also for students who need to take classes outside of the traditional classroom setting.

New York (3) The Virtual School at Liverpool

Website: http://www.liverpool.k12.ny.us/virtual.html

Began: 2000

Note: I believe this virtual school no longer exists. No responses to e-mails. The website has not been updated for over three years. The phone number is "not in service."

North Carolina - Cumberland County Schools' Web Academy (CCSWA)

Website: http://www.ccswebacademy.net/
Began: 1997
Current Enrollment: 510

North Dakota - North Dakota Independent Study (NDIS)
Website: http://www.dis.dpi.state.nd.us/ISC/classes/OLCourses.html
Began: 1996
Current Enrollment: 1,800 (includes students from outside of North Dakota)
Note: "Each year, our online enrollments increase by about 25 percent. "

Ohio – Electronic Classroom of Tomorrow (ECOT)
Website: http://www.ecotohio.org/
Began: 2000
Current Enrollment: 4,000 high school students (6,000 in 1st – 12th grades)
Note: ECOT is an accredited, free public school.

Ohio (2) Buckeye Online School for Success (BOSS)
Website: http://www.go2boss.com/
Began: 2005
Current Enrollment: 125

Oklahoma - K-12 Distance Learning Academy
Website: http://k12.okstate.edu/
Began: 2000
Current Enrollment: 900 (500 are students outside of Oklahoma).
Note: Administered from Oklahoma State University.

Oregon (1) Oregon Online
Website: http://www2.soesd.k12.or.us/it/o2/
Began: 2000
Current Enrollment: 272
Notes:
1. "All Oregon online classes are nationally accredited and can be transferred to any high school for credit."
2. Oregon Online charges $300 per course per semester. However, students attending schools in districts who are members of Oregon Online receive a considerable discount. Some school districts require students to pay for their own course; others require a deposit; others pay the entire cost.

Oregon (2) Salem-Keizer Online
Website: http://skonline.org/
Began: 1999
Current Enrollment: 578
Note: Free to district students. Tuition is $195 per semester for others.

Pennsylvania - Pennsylvania Cyber Charter School (PCCS)
Website: http://www.wpccs.com/
Began: 1999
Current Enrollment: 3,100
Notes:
1. PA Cyber School serves: motivated, independent learners; home educated students; students who travel: athletes, performers; accelerated/gifted students; young mothers or fathers; college bound students; credit deficient students.
2. 4 out of 5 PCCS students are completing 100 percent of their high school education online.

3. What, in your opinion, most proves the success of online education? "There are many factors that would contribute to success. State Assessment scores, NCLB compliance, and loyalty should each be considered, as should the experiences and opinions of those we serve."
4. Sister school to Buckeye Online School for Success (BOSS) in Ohio.

Pennsylvania (2) Keystone National High School
Website: http://www.keystonehighschool.com/
Began: 1999
Current Enrollment: 23,000
Note: Has students in all 50 states and 34 countries.

Rhode Island - See note
Website: None
Began: N/A
Current Enrollment: N/A
Note: I could find no programs in Rhode Island, nor indications that any Rhode Island students or schools participate in programs centered elsewhere. I tried to contact persons at the state DOE, and received no response.

South Carolina (1) Rock Hill Virtual High School
Website: http://www.rock-hill.k12.sc.us/departments/vhs/
Began: 1998
Current Enrollment: 75
Notes:
1. Tuition is $150 for students within the district, $180 without.
2. Enrollment increases in the summer.

South Carolina (2)
Note: From the state DOE contact: "South Carolina does not have a state-wide 'virtual' or online high school. However, many of our districts offer online courses to their students on a much smaller scale and as needed... Studies and research is underway by the Office of Technology at the state department to determine what will be involved and the best way to approach offering quality courses online to our high school students in the future. It is our hope to someday have the funds and support to develop an online system for student course offerings as we already are doing with teacher professional development online courses through our SCOPD (South Carolina Online Professional Development) portal."

South Dakota – See Note
Website: None
Began: N/A
Current Enrollment: Unknown
Note: There are no separate virtual programs in South Dakota. I was able to contact someone from the state DOE, who said schools and districts provide both synchronous and asynchronous online instruction. She did not have statistics, but did say, "the use of virtual education in the state is growing." She believed: "All state public high schools soon will be offering on-line course alternatives."

Tennessee - Hamilton County Virtual School (HCVS)
Website: http://hcschools.org/vhs/Join_Us.htm
Began: 2003
Current Enrollment: 200
Notes:
1. Students are allowed to take one class in addition to their regular course load during the traditional school year, and they are allowed to take two classes during the summer session.
2. The summer session sees a surge in enrollments. 800 attended in the summer of 2004.

3. Currently 16 Tennessee high schools are participating and 15 students from outside the state are taking HCVS courses.

Texas (1) University of Texas High School (UTHS)
Website: http://www.utexas.edu/cee/dec/uths/
Began: 2000
Current Enrollment: 2000 (150 will earn UTHS diplomas)
Notes:

1. UTHS is currently transitioning from a "web-based" to an "online" format.
2. Approximately 150 Texas high schools have students enrolled in UTHS courses.
3. I see by your website that UTHS is transitioning from "web-based" to "online" instruction. I thought those were two terms for the same thing. Can you explain the difference? "We first started with our courses on CD-ROMS with Internet links; those are our web-based courses. We are now moving to totally online courses."
4. What, in your opinion, most proves the success of online education? "Increasing enrollments."

Texas (2) Plano ISD eSchool
Website: http://www.planoisdeschool.net/
Began: 2001
Current Enrollment: 750
Note: Students may take up to only 2 full classes from Plano ISD eSchool.

Texas (3) Houston Virtual School
Website: http://vschool.houstonisd.org/info/index.html?bbatt=Y
Began: 2000
Current Enrollment: 100

Texas (4) Texas Virtual School (TVS)
Website: http://www.texasvirtualschool.org/
Began: N/A
Current Enrollment: Unknown
Note: "Not a school but an initiative. We enroll students through their schools...who in turn give students their grades. Your numbers would be inaccurate based on the numbers I give you for enrollments as there are several online opportunities for Texas students through various school districts and universities throughout the state. I have about a 90% success rate because we screen and orient our students, we have an intensive required training for our teachers, and we require a trained liaison to work with the student on the school end. We call this the working TRIAD. "

Utah - Electronic High School (EHS)
Website: http://www.ehs.uen.org/
Began: 1994
Current Enrollment: 29,884 (200 reside outside of state. 6 getting 100% of education online)
Notes:

1. Most online work done at home.
2. Students may enroll or complete courses any day of the year.
3. Students who complete courses from the EHS will have a transcript mailed to their local school with the grade and credit earned. Beginning in January of 2005, the EHS is able to grant diplomas to a restricted group of students: those who are home-schooled exclusively, those who have dropped out of school and their class has graduated, and district referrals.
4. Courses in the EHS are free to Utah students. Those students who live outside of Utah are charged $100 per semester per course. If a student begins a course while a resident of Utah and then moves out of state, that course can be completed for free.

5. The EHS uses the *Blackboard* software program to communicate with its students. This software provides a way that students can communicate with their teachers without using a separate e-mail account. To utilize this feature, called the Digital Drop Box, a student first creates a folder on his/her desk top and then as he/she completes each assignment, he/she saves it in that folder
6. Electives include Japanese, Latin, and Horse Management.
7. "We serve 5 groups of students: a) students who wish to make up credit; b) students who wish to take a class not offered at their school; c) students who wish to earn extra credit and graduate early; d) students who have dropped out of school and now wish to earn a diploma, and e) home schoolers. So the motivations may be quite different, but the most frequently mentioned advantage is the ability to work at your own speed."
8. "The students feel a one-on-one relationship with the teacher even though they may never see each other face to face."

Vermont – Oak Meadow Online School
Website: http://www.oakmeadow.com
Began: 2005
Current Enrollment: Unknown
Notes:
1. "Just opened our online high school courses in January, do not have data available."
2. Vermont also has 4 schools participating in the Concord, MA based Virtual High School.

Virginia – (1) Prince William Virtual High School (PWVHS)
Website: http://www.pwcs.edu/pwcsvirtualhs/
Began: 2001
Current Enrollment: 280
Notes:
1. Currently offering 22 courses.
2. Most students who have taken a course from PWVHS have commented that online courses are excellent but require at least if not more time than a traditional classroom course
3. Usually only one online course per semester is allowed. Two are allowed on exception.
4. Not an accredited program, PWVHS works with student's "base" schools.
5. None complete 100 percent of high school education online.
6. Cost is $425 per class.
7. 81 percent pass rate on Virginia Standards of Learning from PWCS virtual classes.
8. Uses virtual white board, blackboard drop box, and chat rooms.
9. About 5 percent of PWVHS students reside outside of the PWCS school district. Most of them are in AP courses.

Virginia (2) York County Virtual High School (YCVH)
Website: http://yorkcountyschools.org/VirtualHS/
Began: 2002
Current Enrollment: 440
Notes: Since this was the most local online program, I asked the program manager some different questions than the others. Here are his responses.
1. "None of our students are attending virtual classes exclusively. It is possible to complete a high school education, and earn a diploma through YCVH, though none are, and we don't recommend it."
2. Do all the YCVH students reside in York County? "No, a number of them live in Virginia Beach. All our students reside in Virginia."
3. Are the teachers teaching traditional classes also, or virtual classes exclusively? "Both, some of our teachers are also in the classroom, and some are retired Virginia high school teachers. Most of the teachers are in York County, some live elsewhere in Virginia."
4. How are the virtual teachers compensated? "They are given a stipend for teaching the virtual class, and a certain amount for each student."

5. Do you know of other Virginia school districts conducting virtual classes? "Yes, there are four or five that I know of. We collaborate ideas, lessons, and resources."
6. Do you believe virtual education will replace traditional classroom education? "No, I compare virtual education to 'books on tape.' It is primarily for the homebound. There are blended classes in which the course at the high school uses the on line course to provide more information or to answer schedule conflicts. Discipline and Homebound students are most likely only taking courses on line. We do not however, allow a student to complete all four years of high school on line."

Virginia (3) Virginia Internet High School (VIHS)
Website: http://www.internet-high.com/va/home.htm
Began: 2001
Note: I believe this virtual school no longer exists. No responses to e-mails, or phone calls. The website has not been updated for over three years.

Washington - Evergreen Internet Academy (EIA)
Website: http://eia.egreen.wednet.edu/
Began: 1999
Current Enrollment: 330
Notes:
1. EIA is available only to students under 21 years old.
2. There is no tuition for Washington residents.
3. All but 5 EIA students are residents of Washington
4. 300 Washington high schools have had students participate in EIA.
5. EIA supplements rather than replaces regular school. Almost all EIA students attend and graduate from regular high schools.

Washington (2) Internet Academy (IA)
Website: http://www.iacademy.org/
Began: 1996
Current Enrollment: 700
Notes:
1. Students from 112 districts taking 1600 courses.
2. Supplements regular education only.
3. All but 4 IA students are Washington residents.

Washington (3) Christa McAuliffe Academy (CMA)
Website: http://www.cmacademy.org/
Began: 1995
Current Enrollment: 325
Note: What, in your opinion, most proves the success of online education? "People willing to pay money out of their own pockets to get an education online when the public school is FREE."

West Virginia – West Virginia Virtual School
Website: http://access.k12.wv.us/vschool/
Began: 2000
Current Enrollment: 1250
Notes:
1. Chartered to provide instruction to those who are "geographically challenged."
2. 334 students enrolled the first year. 468 enrolled in 2001. 1,004 enrolled in 2002. Began summer classes in 2003 with 200 enrolled.
3. Has a partnership with Florida Virtual School for some classes.
4. Uses local mentor/facilitators.

Wisconsin (1) Wisconsin Virtual Academy (WIVA)
Website: http://www.wivcs.org/
Began: 2003
Current Enrollment: Unknown
Note: Will not be offering high school classes in 2005/2006 school year.

Wisconsin (2) Wisconsin Virtual School (WVS)
Website: http://www.wisconsinvirtualschool.org/
Began: 2000
Current Enrollment: 400
Notes:
1. Tuition is $325 for each course. Most districts cover the cost.
2. 100 Wisconsin high schools have students participating in WVS.
3. WVS only supplements regular education.

Wisconsin (3)
Note: According to the state DOE contact, individual schools are offering online courses, but the statistics for these are not tracked.

Wyoming – None. See note.
Website: N/A
Began: N/A
Current Enrollment: N/A
Note: Wyoming Education Gateway http://wyoming.edgate.org/index.php is the state DOE site for education technology in public school. According to the department head, online education in Wyoming is currently faced with "accreditation obstacles."

Other:

CompuHigh – The "world's first online high school." Began in 1994. Current enrollment – over 1,000. All course material is online. Teachers respond to students' postings within a 48 hour time period. CompuHigh courses are project-based, not test-based.
CompuHigh is the online division of Clonara School, a fully accredited private school.

CALCampus – Numbers not available. "Many traditional schools are sending their students to us to supplement their local curriculum requirements. Furthermore, I have noticed that the state departments of education are now including discussion of distance learning course options for their public high school students. For example, New Hampshire includes reference to this in their guidelines for public high schools. Just a few short years ago, the departments of education did not know about online schooling and did not list this as an option." Dr. Morabito

APPENDIX D
Pertinent Websites

Virtual High Schools

Alabama Online High School: http://www.aohs.state.al.us/about.html
American Virtual High School: http://www.americanvirtualhighschool.us/
Arizona Distance Learning: http://www.sequoiachoice.com/new/index.php
Arizona Online Schools: http://ade.state.az.us/stateboard/tapbi.asp
Arkansas Virtual High School: http://arkansashigh.k12.ar.us
Babbage Net School: http://www.babbagenetschool.com/index_home.html
Buckeye Online School for Success: http://www.go2boss.com/
CalCampus High School: http://www.calcampus.com/CalcHigh/
California Choice 2000 Online High School: http://www.choice2000.org/
Clintondale, MI Virtual High School: http://www.clintondalevhs.org/
Clovis Anytime Learning: http://www.cusd.com/
CNN Report on Online Schools: http://www.cnn.com/2004/EDUCATION/08/13/b2s.elearning/
Colorado Online Learning: http://www.col.k12.co.us/
CompuHigh: http://www.compuhigh.com/
Cumberland County Schools Web Academy: http://www.ccswebacademy.net/
Delta Cyber School: http://www.dcs.k12.ak.us/
Digital Dakota Network: http://doe.sd.gov/octa/ddn4learning/programguide/index.asp
Electronic Classroom of Tomorrow (ECOT): http://www.ecotohio.org/
Elkhart Cyber School: http://onlineecs.org/
Evergreen Internet Academy: http://eia.egreen.wednet.edu/
Florida Virtual School: http://www.flvs.net/_about_us/facts.htm
Francis School Online High School: http://www.francisschool.net/
Gwinnett County Online Campus: http://gwinnettk12online.net/
Hamilton County Virtual School: http://hcschools.org/vhs/default.htm
Hawaii E-School: http://www.eschool.k12.hi.us/
Houston ISD Virtual School: http://vschool.houstonisd.org/info/index.html
Idaho Digital Learning Academy: http://idla.k12.id.us/
Illinois Virtual High School: http://ivhs.org/index.learn?bhcp=1
Indiana University: http://scs.indiana.edu/hs/highschoolcourses.html
Indiana Web Academy: http://www.indianawebacademy.org/
Internet Academy: http://www.iacademy.org/
Jubilee Academy: http://www.thejubileeacademy.org/
Keewaytinook Internet High School, Ontario Canada: http://kihs.knet.ca/
Kentucky Virtual High School: http://www.kvhs.org/
Keystone National High School: http://www.keystonehighschool.com/
Laurel Springs School: http://www.laurelsprings.com/
Louisiana Virtual School: http://lvsportal.doe.state.la.us/
Maryland Virtual Learning Opportunities: http://mdk12online.org/
Mesa Distance Learning Program: http://www.mdlp.org/
Michigan Virtual High School: http://www.mivhs.org/
Minnesota Online Learning: http://education.state.mn.us/html/intro_online_learning.htm
Mississippi Online Learning Institute: http://molli.mde.k12.ms.us/
Missouri University High School: http://cdis.missouri.edu/MUHighSchool/HShome.htm
Missouri Virtual School: http://mvs.smsu.edu/
Monte Vista Online Academy: http://monte.k12.co.us/
Oak Meadow Online School: http://www.oakmeadow.com/
Odyssey Charter High School: http://www.odysseyk12.org/HS/

Oklahoma State University K-12 Distance Learning: http://k12.okstate.edu/index.html
Oregon Online: http://www2.soesd.k12.or.us/it/o2/
Pennsylvania Cyber Charter School: http://www.wpccs.com/
Prince William County, VA Virtual High School: http://www.pwcs.edu/pwcsvirtualhs/
Rock Hill, SC Virtual High School: http://www.rock-hill.k12.sc.us/departments/vhs/
Salem-Keiser Online: http://skonline.org/
SeeUonline: http://www.seeuonline.org/
Texas Plano ISD eSchool: http://www.planoisdeschool.net/
Texas Virtual School: http://www.texasvirtualschool.org/
University of California College Prep Online: http://www.uccp.org/
University of Miami Online High School: http://www.umohs.org/
University of Texas High School: http://www.utexas.edu/cee/dec/uths/
Utah Electronic High School: http://www.ehs.uen.org/
Virtual High School: http://www.govhs.org/website.nsf
Westside Virtual High School: http://wvhs.westside66.org/policies/background.html
West Virginia School: http://access.k12.wv.us/vschool/
Wisconsin Virtual Academy: http://www.wivcs.org/
Wisconsin Virtual School: http://www.wisconsinvirtualschool.org/
York County Virtual High School: http://yorkcountyschools.org/VirtualHS/index.html

General Information:

Alaska E-Learning: http://www.eed.state.ak.us/ELearning/
American Center for the Study of Distance Education: http://www.ed.psu.edu/acsde/
American Society for Training & Development: http://www.astd.org/astd
Apex Learning: http://www.apexlearning.com/
Arizona State University report: http://www.asu.edu/educ/epsl/EPRU/documents/EPSL-0404-118-EPRU.pdf
Ball State University, Internet-based Education, December 2001: http://www.bsu.edu/classes/nasseh/study/research2000.html
CalCampus Distance Education Research: http://www.calcampus.com/research.htm
Coach University Report on Virtual Education: http://topten.org/Content/tt.AT1.htm
Connecticut Distance Learning Consortium: http://www.ctdlc.org/
Demonstration Course: http://ivhs.org/demo40_2/index.learn?action=unit1&subaction=exam
Discovery Quiz Center: http://school.discovery.com/quizcenter/quizcenter.html
Distance Education and Training Council: http://www.detc.org/
Distance Learning Resource Network: http://www.dlrn.org/index.html
Education Resources Information Center: http://www.eric.ed.gov/
E-Learners.Com: http://www.elearners.com/resources/k12-online.asp
Emints National Center: http://www.emints.org/
E-School News: http://www.eschoolnews.com/
E-School News report: http://www.eschoolnews.com/news/showStory.cfm?ArticleID=4456
Gallup Poll: http://www.gallup.com/content/login.aspx?ci=11725
Henrico County Public Schools Teaching and Learning Initiative: http://www.henrico.k12.va.us/laptopinitiative//
History of Distance Learning: http://www.media-visions.com/ed-distlrn1.html
Homeschooling in the U.S.: http://www.census.gov/population/www/documentation/twps0053.html
Homeschoolers in 2004: http://homeschooling.gomilpitas.com/weblinks/numbers.htm
Internet Education, Presentation: http://www.londonmet.ac.uk/ltri/pubs/p_chalk/alumni04.ppt
Internet Public Library: http://www.ipl.org/
Internet Studies Center: http://www.isc.umn.edu/research/distance.html
Maine Learning Technology Initiative: http://www.maine.gov/mlte/

Michigan Virtual University, Article on Higher Education in 2010: http://ts.mivu.org/default.asp?show=article&id=619

MSNBC Article – Are Computers Wrecking Schools? http://msnbc.msn.com/id/3225740/

MSNBC Article on Virtual Classrooms: http://www.msnbc.msn.com/id/4633126/

National Association of State Boards of Education report on e-learning: http://www.nasbe.org/e_learning.html

National Center for Education Statistics: http://nces.ed.gov/

National Education Association (NEA) Guide to Online High School Courses: http://www.nea.org/technology/onlinecourseguide.html

National Education Technology Plan: http://www.nationaledtechplan.org/stories.asp
Or http://www.ed.gov/about/offices/list/os/technology/plan/2004/index.html

New Hampshire DOE Online Tutoring: http://nheon.org/oet/onlinetutor.htm

North American Council for Online Learning: http://www.nacol.org/

Northwest Regional Educational Laboratory (NWREL), Online Schools: http://www.nwrel.org/nwedu/10-02/resource/

Overview of Web-Based Education Study (November 2000): http://www.slis.uwm.edu/webstudy/overview.htm

Technology Education in Virginia, Virginia Department of Education: http://www.pen.k12.va.us/VDOE/Instruction/CTE/te/home.html

United Learning: http://www.unitedlearning.com/

U.S. Department of Education, Educational Resources Information Center (ERIC). http://www.eric.ed.gov/

U.S. DOE Character Education and Civic Engagement Technical Assistance Center (CETAC) Online: http://www.cetac.org/

U.S. Department of Education Study on Distance Education: http://www.ed.gov/news/pressreleases/2005/03/03022005a.html

University of Minnesota, Distance Education Research: http://www.isc.umn.edu/research/distance.html

University of North Florida Report on Virtual Schools: http://www.unf.edu/~ccavanau/04Cavanaugh_C.pdf

University of Phoenix (100 percent of curriculum is online): http://www.uopxonline.com/programs.asp

University of Pittsburgh, How to Conduct Meta-Analysis: http://www.pitt.edu/~super1/lecture/lec1171/

USA Today Article: http://www.usatoday.com/tech/webguide/internetlife/2003-11-23-virtual-school-michigan_x.htm

Wendy E. Morris and Larry C. Lyons, Meta - Analysis: http://www.lyonsmorris.com/MetaAnalysis.htm

WestEd: http://www.wested.org

Wisconsin Department of Public Instruction List of Virtual Schools: http://www.dpi.state.wi.us/dae/vischname1.html

World Bank, Distance Education Growth and Diversity: http://www.worldbank.org/fandd/english/0398/articles/0110398.htm

World-Wide Learn: http://www.worldwidelearn.com/online-degrees/online-high-school-courses.htm