

1998

Internet in the Classroom

Nathan J. Aslinger
Eastern Illinois University

Recommended Citation

Aslinger, Nathan J., "Internet in the Classroom" (1998). *Masters Theses*. 1713.
<https://thekeep.eiu.edu/theses/1713>

This is brought to you for free and open access by the Student Theses & Publications at The Keep. It has been accepted for inclusion in Masters Theses by an authorized administrator of The Keep. For more information, please contact tabruns@eiu.edu.

THESIS REPRODUCTION CERTIFICATE

TO: Graduate Degree Candidates (who have written formal theses)

SUBJECT: Permission to Reproduce Theses

The University Library is receiving a number of request from other institutions asking permission to reproduce dissertations for inclusion in their library holdings. Although no copyright laws are involved, we feel that professional courtesy demands that permission be obtained from the author before we allow these to be copied.

PLEASE SIGN ONE OF THE FOLLOWING STATEMENTS:

Booth Library of Eastern Illinois University has my permission to lend my thesis to a reputable college or university or the purpose of copying it for inclusion in that institution's library or research holdings.

7/17/98
Date

I respectfully request Booth Library of Eastern Illinois University **NOT** allow my thesis to be reproduced because:

Author's Signature

Date

Internet in the Classroom

BY

Nathan J. Aslinger

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Master of Science in Education

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1998

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING
THIS PART OF THE GRADUATE DEGREE CITED ABOVE

July 17, 1998
DATE

7/17/98
DATE

INTERNET IN THE CLASSROOM

by

Nathan J. Aslinger

A Master's Thesis Submitted for Fulfillment of the
Requirements for the Degree of
Masters in Education

Business Education
in the Graduate School
Eastern Illinois University
July 24, 1998

ABSTRACT

MAJOR PROFESSOR: Dr. Roger L. Luft

Purpose of the Study

This study was conducted to determine the role of the Internet in Illinois high schools, how it is integrated into the business education curriculum, and the status of technology in these high schools. Most schools are “hooked up” and the teachers are usually trained through internal workshops. Some schools even have a specific “Internet” course. The following questions are the research questions used for this study:

1. What is the general status of the Internet in secondary schools as perceived by business teachers?
2. To what extent is the Internet being included in the secondary business curriculum?
3. How is the Internet being used in the secondary business curriculum?

Procedures

A survey instrument was developed as part of this research to collect data from Illinois business teachers who are members of the Illinois Business Education Association. The researcher sent two hundred fifty surveys and received about a 57 percent response. The respondents were told of the confidentiality of the survey and were asked to return it in less than three weeks.

Conclusions

This research concluded that since most teachers have more than ten years teaching experience, they should be more apt to deal with changes in technology. They

should use this technology everyday. Just less than three percent of the teachers stated that they have no access to the Internet at school. This puts those students at a disadvantage compared to other students. The Internet is integrated into business classes more often than others mainly because business lends itself more to technology and the Internet. Most teachers feel that the Internet should supplement about twenty-five percent or less of the business curriculum. Training for the teachers takes place in internal workshops during school time. Training for students takes place in the various classes. Research is the most common reason to utilize the Internet. Finally, most schools have an Internet Acceptable Usage Policy in force.

Recommendations

It is recommended that the information in this study be used as a base for future studies and to continue observations of how schools are using the Internet and how it influences the business curriculum. A more wide spread study could be conducted nationally. School districts should train their employees to use the Internet and its' resources to it's fullest extent. Teachers should continue to integrate the Internet into the business curriculum and assist teachers from other disciplines to do the same. If a district has no Internet access, then ways to gain access should be investigated and implemented.

ACKNOWLEDGMENTS

I wish to express my sincere appreciation to everyone who helped to make the completion of this thesis possible.

My sincere gratitude is given to my advisor, Dr. Roger Luft. His constant use of encouraging words and his support made the process of writing the thesis to achieve my Master's degree less difficult. I also extend my appreciation to Dr. Norman Garrett for taking time out of his extremely busy schedule to make recommendations. Their help has been very valuable

Finally, I must express my appreciation and love to my family. Their support and concern has helped me become the first person from my family to earn a Master's degree.

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGMENTS	iii
I. INTRODUCTION	1
Statement of the Problem	3
Importance of the Study	4
Definition of Terms	8
II. LITERATURE REVIEW	10
Pros of Internet Integration	10
Cons of Internet Integrations	14
Questions Involving Using the Internet as a Resource for Schools	15
Economics and Social Class	18
Teacher Benefits	19
Student Benefits	19
III. METHODS AND PROCEDURES	21
Background	21
Population and Sample	21
Survey Instrument	22
Data Collection Procedures	23
IV. ANALYSIS OF DATA	24
Demographics	24
School's Access to the Internet	25
Integrating Into Curriculum	26
How Teachers and Students are Trained to Use the Internet	28
Purpose of the Internet	29
School's with an IAUP	31
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	35
BIBLIOGRAPHY	40
APPENDIX	43

Internet in the Classroom

CHAPTER I

Introduction

Imagine having access to the world with help from your personal computer and your telephone line. This is what the Internet is -- a network linking other networks to millions of people electronically. "The Internet is an amazing resource, but much like the oil or water reserves buried deep beneath the surface of the earth, this resource is of little use to you if you can't get to it--or get it to you" (Lambert & Howe, 1993, p. xx).

Information means power, prestige, or money -- or it may just be interesting. The need or the curiosity for this information caused the Internet to be born (Lambert & Howe, 1993).

The Internet is defined differently by each person. For some it is the largest e-mail system on the planet, or to another person it is a research tool to aid in keeping up with the new technologies. People all over the world use it to play games, check the stock market, or even check the weather for anywhere in the world (Lambert & Howe, 1993). "The Internet is a very dynamic entity" (Ekedahl & Newman, 1996, p. 6).

Technically the Internet is a network of thousands, even millions of computers linked together. Users can communicate with people and locate and retrieve files from thousands of computers all over the globe. There is no corporation that owns the Internet

or the computers that have access to the "net". All these computers were purchased by people, schools, and businesses for the purpose of communicating information to one another. "Communication on the Internet is controlled by a complex set of rules, expressed and enforced through software that runs on computers that are linked together with wires, fiber optic cables, microwave, and satellite communication links" (Lambert & Howe, 1993, pp. 2-3).

The Internet was developed as an experimental government project by the military and over the years it has hit socialized America very quickly. In the early years the Internet was used for research or education. Today commercial corporations such as America Online, CompuServe, and Prodigy have changed how the world looks at the Internet. These companies have made the Internet accessible to everyone who possesses a computer whether they are at work, home, or traveling (Wehmeyer, 1995).

There is an enormous amount of information that a person can access with the Internet. Different people will use some activities and never explore others depending on their own preferences. The following is a list of some of the activities that can be accomplished through use of the Internet (Lambert & Howe, 1993).

Electronic Mail

File Transfer Protocol (FTP)

Discussion Groups

Mailing Lists

Usenet

Telnet

Gopher

Worldwide Web (WWW)

Finger

Statement of the Problem

The Internet could revolutionize teaching and allow our students to be competitive in the globalized world job market and the possibilities for the United States are limitless. Unfortunately, if we deny this generation the key, the global competitors will "open the door first, and reap the rewards" (Riley, 1995, p. 50). The United States will receive great returns in the form of more productive and rewarding teaching and learning. It seems that educators should take the Internet seriously and the education of Americans will improve in results of competency (Riley, 1995, p. 50).

This research sought to determine how the Internet can be utilized in the classrooms as a resource to teachers and their curriculum in Illinois high schools. As far as could be determined, this type of research has not been done at this level in the state of Illinois. "Technology (the information superhighway) can help tailor instruction to the individual needs of students; improve instructional management; support teachers and

their professional development; and connect students learning with real world experiences" (Riley, 1995, p. 50).

Unfortunately, "curriculum haven't changed to keep up with advances in technology, and teachers need to be trained in using the new technology" (Hundt, 1996, p. 6). "Integrating the Internet into the curriculum is something that cannot be learned by reading an article or even attending a 1-day workshop" (Swain et al., 1996, p. 84). Learning to integrate the Internet is a learned skill and it takes substantial practice (Swain et al., 1996).

This study attempted to answer the following questions:

1. What is the general status of the Internet in secondary schools as perceived by business teachers?
2. To what extent is the Internet being included in the secondary business curriculum?
3. How is the Internet being used in the secondary business curriculum?

Importance of the Study

Educational leaders must realize that instructional activities should emphasize thinking processes to help students become effective problem solvers. Students can gain experience in planning, teamwork, research, and decision making with the ability to manage information. Access to the Internet provides a solution to limited resources of

technology and allows students the information needed to complete an adequate learning objective (Andres, 1992, p. 2).

The Internet can be a classroom tool and a strategy that teachers use to motivate students. "Research has shown that when students communicate online with their peers and when they use real purpose information services they are more likely to complete their assignments" (Andres, 1992, p. 2). These are very important issues to the educators. Andres went on to say that the Internet links students with other students and deals with real world events that help them become a "good world citizen" (Andres, 1992).

Betty Collis thinks that Internet in Education "is a second iteration of the computers in education phenomenon of the 1980s" (Collis, 1996, p. 21). There seems to be a surge of interest in the Internet, which is similar to the interest in computers in the late 1970s and early 1980s. This second wave, though, should produce the same sorts of results as the computer wave, but certain breakthroughs in success will occur due to the unique characteristics of the WWW (Collis, 1996).

There are barriers to implementing Internet access in classrooms. One barrier is the "lack of teacher training in Internet use" (Sanchez, 1995; Swain et al., 1996, p. 84). "Another barrier to implementation is the lack of class time that can be devoted to using the Internet" (Ubois, 1995; Swain et al., 1996, p. 84). Teachers need to change the ways they teach in order to successfully implement Internet activities. Sometimes schools are

weary of the costs of implementation. "Further the lack of assistive devices for use with the Internet continues to be a problem for students with disabilities" (Swain et al., 1996, p. 84). And there is pornography, which will be discussed later (Swain et al., 1996).

Bard Williams stated eight reasons why students should "get on" the Internet in the book The World Wide Web for Teachers. Below are the eight reasons:

1. The Internet presents real world examples of integrated knowledge.
2. The Internet facilitates collaborative learning .
3. The Internet offers opportunities for telemetering.
4. The Internet is all about communicating.
5. The Internet can cater to different learners in different ways.
6. The Internet is culturally, racially, physically, and sexually blind.
7. Exploring the Internet can rekindle a teacher's interest in learning.
8. We have an obligation to society (Williams, 1996).

The results of this study can enable business teachers to realize the importance of integrating the Internet into their business curriculum. Ways that business teachers are currently using the Internet to supplement their curriculum will be discussed later.

Administrators can use the results of this research to realize the importance of teacher training to assure success. "Teachers need time to design activities, to try them out, and to gain feedback regarding their strengths and weaknesses. They need opportunities to

observe one another and to learn from exemplary users of technology” (Means, Olson, & Singh, 1995, p. 72).

Definition of Terms

- Electronic Mail (e-mail)** Like regular mail, electronic mail allows you to send messages all over the world. Mail is sent electronically through the use of mail software and an Internet connection (Swain et al., 1996).
- Discussion Groups** Any "place" on the net where discussions are held, including mailing lists and Usenet groups (Cromlish, 1996).
- Gopher** A client-server application that performs FTP transfers, remote logins, Archie searches, presenting everything in the form of menus (Cromlish, 1996).
- File Transfer Protocol (FTP)** FTP refers to the process of downloading and uploading files or software from remote computer systems (Swain et al., 1996).
- Finger** A UNIX command that reports back on the status of a user or a network (Cromlish, 1996).
- Internet** This is a broad term used in discussing all aspects of remote access communications. It includes e-mail, FTP, World Wide Web, Telnet, and listserv (Swain et al., 1996).
- Listserv** This is a mailing list that you subscribe to electronically. You receive e-mail from other subscribers discussing common interests and occurrences (Swain et al., 1996).
- Mailing Lists** A list of people with a common interest, all of whom receive all the mail sent, or posted, to the list (Cromlish, 1996).
- Telnet** This Internet tool allows your computer to become a dummy terminal to a remote system. Once you have telnetted to a location, it is just like your computer is in the same building (Swain et al., 1996).
- UNIX** An operating system common to workstations and on which most Internet protocols were developed (Cromlish, 1996).

Uniform Resource Locator (URL) String of characters that gives every web page an address which usually begins with http:// (Cromlish, 1996).

Usenet The collection of computers and networks that share news articles (Cromlish, 1996).

World Wide Web (WWW) The WWW is part of the Internet. It is usually accessed through a graphical interface that allows users to "point and click" when accessing Web pages. Web pages are accessed through URL addresses (Swain et al., 1996).

CHAPTER II

Literature Review

Pros of Internet Integration

"Education in America is at a critical crossroad. On one hand, in the past decade parents, educators, legislators, and business and community leaders have worked hard to create a broad based, bipartisan consensus on how to improve American education" (Riley, 1995-1996, p. 51). Secretary of Education, Riley went on to say, "On the other hand, the use of technology in American life has exploded in the 1990's, affecting everything from the work place to the living room" (Riley, 1995-1996, p. 50). Riley goes on to state "I have come to believe that it will be possible to provide the kind of quality education for every student...only if our young people have access to these new technologies and information tools" (Riley, 1995-1996, p. 50).

Technology will improve instructional management, support teachers, connect students with "real world experiences," and help tailor instruction to the individual needs of students. "The nation should set out to create the kinds of learning institutions it has always wanted and needed--schools that tailor instruction to the specific, individual need of each student and that encourage students to learn at their own pace and throughout their lives" (Riley, 1995-1996).

Technology is not a cost but an investment. If the United States continues to think short term, as it did in the 1980's the results are potentially disastrous. Every year, large corporations and small businesses, two- and four-year colleges, and public and private universities spend billions of dollars on remedial education. If the nation does it right the first time, it can eliminate this costly and wasteful need to keep redoing it. (Riley, 1995-1996, p. 51)

"The Internet provides wonderful opportunities for the educational community. Teachers can find thousands of journal articles on classroom management, learning theories, and legal issues" (Doty, 1995, p. 75). Most states offer schools free Internet access. Usually these systems offer e-mail, gopher services, and a few Usenet groups. "The Internet offers many incredible opportunities for education, and state governments are trying to make it easier for us to reap its benefits. Teachers have the responsibility to their students to get on the information highway, and they owe it to themselves to explore its potential" (Doty, 1995, p. 77).

There are many sites on the World Wide Web that provide an abundance of materials for teachers and students to explore. "AskERIC has been collecting publications, educational digests, government information, and lesson plans for years"

(Swain et al., 1996, p. 86). Sometimes finding appropriate sites can be troubling for teachers. Classroom Connect is a site just for educators and is located at <http://classroom.net>.

Congress allocated over a million dollars a few years ago to conduct research to determine the effectiveness of interactive media. This lengthy study of over 600 research studies concluded: "When using interactive media, students learn the same amount of material in half the time or less with equal or better understanding and equal or longer retention than when using traditional means of instruction" (Donahue, 1996, p. 3). The study also showed that the Internet was correlated with "independence, creativity, intelligent decision making, and initiative" among students (Donahue, 1996, p. 3). Dr. Donahue analyzed these results and concluded, "based on the research and our experience, we believe interactive learning on the World Wide Web is likely to have a profound effect on American education once we learn how to harness its power" (Donahue, 1996, p. 3). A few key points were also noted in this study:

1. responsibility for learning shifted from the teacher to the learner;
2. emphasis shifted from teaching to learning;
3. the level of classroom discussion became much more sophisticated;
4. the Socratic method of asking worked better than telling;

5. the role of the instructor changed from one of lecturer to one of mentor and coach;
6. instructor's office hours and times in class were optimized; and
7. ancillary use of the Web site that was not integrated in the core of the class was not very effective (Donahue, 1996, p. 3).

Dr. Donahue conducts a discussion group at <http://www.emcp.com>.

Concetta M. Stewart conducted a class on the net for the first time and found out there are many positives. Her class used the IRC (Internet Relay Chat facility) from Temple Universities' system. IRC is a multi-user, multi-channel network that allows people all over the world to talk to one another virtually instantly. Stewart said that she allowed the students all to get on one channel and did not put limitations or controls on who should speak. She stated the conversation was not on the topic at first, but then the conversation began rolling. She was pleased that some of the students who normally were shy and did not talk in class did actually participate in this Internet exercise. She also noticed that there were students who were talking after class who normally never talked to each other. For most of the students this was their first time on the Internet and Stewart felt it was well worth it. She stated at the end of her story: "I was very pleased by the students' reactions, and that several of the students even commented to me that

they were glad for the opportunity to become less fearful of the technology" (Stewart, 1995, p. 52).

Early investments in educational technology such as the Internet will provide handsome long term returns. Schools should be firm in their commitment to technology but also be flexible in the implementation. They should realize that technology is good for about five to six years. The schools should have alliances with the private business sector and the nation should do a much better job of developing teachers' professional skills by training them with these new technologies. "In one sense, the nation owes its teachers nothing less. In another, it owes its students nothing less. But in the final analysis, the nation owes itself and its future nothing less" (Riley, 1995-1996, p. 52).

Cons of Internet Integration

On the other hand, according to a New York Times article, the value of Internet in the classroom is still in question. "In Silicon Valley, where 150 high-technology companies have donated an estimated \$27 million to connect 450 schools to the Internet, any academic benefits so far are difficult to gauge" (Harmon, 1997, p. A1). The value of the Internet is being called into question. "A recent survey by Market Data Retrieval, an education research firm, found that fewer than 14 percent of American teachers believe the Internet improves students' academic performance" (Harmon, 1997, p. D15). Larry Cuban, an education professor at Stanford University who scorns the Internet as "the

classroom filmstrip of the 1990's" stated "All the hoopla around the Internet obscures the deeper and more important issues of learning, about how you teach kids to acquire the basic skills and think independently" (Harmon, 1997, p. D15).

"Technology is no "silver bullet" for transforming education" (Means, Olson, & Singh, 1995, p. 69). Sometimes there is a lack of interest among the teachers, "Most schools have a few teachers who are interested in technology" (Means, Olson, & Singh, 1995, p. 70). "Technology cannot become a useful support for students' work if they have access to it for only a few minutes a week. Schools are faced with the reality of a limited budget for equipment, telecommunications, and software" (Means, Olson, & Singh, 1995, p. 70). These people did have a suggestion to give teachers extra time to collaborate on different ideas in order to integrate technology into their curriculum.

Questions Involving Using the Internet as a Resource for Schools

"The whole Internet marketplace is going through a tremendous and very rapid evolutionary phase" (Ekedahl & Newman, 1996, p. 6). As the Internet enters this stage of explosive growth, many public schools are going online. According to a recent Education Department study, half of the nation's public schools have hooked up to the Internet. Unfortunately, this does not mean the Internet is available to half our classrooms (Hundt, 1996).

Some of these efforts are tentative, others bold, as schools work with varying levels of resources and expertise. Educators work to develop acceptable use policies that will satisfy school boards and have still relevance to a technology that did not even exist when the '90's began.

(Sanchez, 1995, p. 71)

Unfortunately there are scary stories about the darker side of the Internet, and the schools are responding with caution. Two questions that are asked are:

- Will the children misuse the Internet?
- Will adults make inappropriate contact with children?

While these are genuine questions, many educators think the Internet's benefits to children far outweigh potential drawbacks. "Teachers and schools can control these issues on the Internet, districts can reinforce that their current code of conduct or student handbook also applies to the use of the Internet" (Sanchez, 1995; Frazier, 1995; Swain et al., 1996, p. 84). In addition other schools have an Internet Acceptable Usage Policy.

"The net is a link to other schools, libraries, and museums and the world at large. With a bewildering array of resources, the question becomes not whether to link up to the Internet, but a series of how-tos" (Sanchez, 1995, p. 71).

How to pay for it?

How do you determine acceptable use by students?

How do you choose the links that students will use?

The public schools that are going online already share links and information.

"With Internet training ninety percent of the teachers have said their (students) computer skills have increased considerably" (Sanchez, 1995, p. 72).

A few examples that Sanchez cited were: (1) students quickly got past the idea that computers were Nintendos and they began designing their own home pages. (2) Fifth graders were teaching second graders how to search for animal pictures and create links from their stories to the pictures. (3) Sixth graders helped first graders write and illustrate stories. (4) Teachers all over America began helping each other with software problems instead of call the technical support hotline (Sanchez, 1995).

Bev Cameron, who teaches computer classes at American High School in Dade County, Florida, guides her advanced students through the Internet using Netscape Navigator. Cameron reported that students are so enthusiastic they want to use the Internet for special projects in other classes. She is helping train several teachers so they can integrate the Internet into their curriculum for the next school year. "Cameron allows no more than two computers online at any time so she can properly monitor students' activities. The students have neither time nor opportunity to browse randomly, as time

and access to the Internet are limited" (Sanchez, 1995, p. 74). Students have very specific assignments to perform and the students need to log their location on the Internet. Alaskan students tell the world about their culture by the information on their home page, which has children from University Park Elementary School deliver greetings in seven different languages (Sanchez, 1995).

Economics and Social Class

Tschera Connell and Carl Franklin discovered that the Internet users are from elite backgrounds and that the poor and underprivileged do not have access to the Internet.

"This must change in order for the Internet to achieve its full promise. The greatest barriers to the Internet are economic and geographic" (Connell & Franklin, 1994, p. 614).

Connell and Franklin stated that economics are a big disadvantage. They realized that not only do people have to pay for Internet access, but also the computers and phone lines. Rural schools have the same problem with little money to purchase technology, whereas city and suburban schools tend to have the latest technology. Geography is the second barrier to the Internet. "Dillman and Beck (1988) pointed out the vital need for a telecommunications infrastructure in rural areas. Without this infrastructure, rural areas will not be able to compete against urban areas in the growing information economy"

(Connell & Franklin, 1994, p. 615). Basically the rural people share the problem with the poor (Connell & Franklin, 1994).

Teacher Benefits

There are many teacher benefits with using the Internet. Teachers can share resources, display their own innovative lessons for others to use, interact with others in order to share ideas, and determine solutions for common classroom problems (Dyrli & Kinnaman, 1995; Giagnocavo et al., 1995). They also can connect to the Internet from their personal computers at home. This access to resources fosters the sense of global teaching because it allows individuals to correspond with each other from anywhere on the globe (Swain et al., 1996).

Student Benefits

There are many benefits for students also. On the Internet, students can benefit from the sense of empowerment they experience as they guide their own learning. The information available is limitless. Internet access, along with the use of technology, sparks interest in areas that might not be sparked in traditional teaching formats (Giagnocavo et al., 1995). "The access to the Internet allows students to have greater control over their own learning" (Swain et al., 1996, p. 83). The students become independent learners (Giagnocavo et al., 1995). "The Internet provides students with a forum for creating, publishing, searching, and making decisions. Through the use of the

Internet, students are afforded enhanced learning opportunities, and they overcome many barriers (Swain et al., 1996, p. 83). Although access to the Internet for students with visual impairments is sometimes limited because of the lack of "assistive" browsers, students with other disabilities have equal opportunities to participate (Male, 1994). "The Internet is beginning to provide technology that reaches all students--not just a select few" (Swain et al., 1996, p. 83).

"At the least, all students should be required to take a course which introduces them to the Internet and its applications in libraries and information centers" (Connell & Franklin, 1994, p. 619). Connell and Franklin also believed that K-12 teachers should take a certain number of continuing education classes to help them with the Internet. "The result may be an education revolution in which teachers help students develop the job readiness skills necessary to succeed in an information intensive economy" (Connell & Franklin, 1994, p. 620).

CHAPTER III

Methods and Procedures

Background

The instrument developed for this research was intended to determine usage and availability of the Internet in Illinois public high schools. There are many questions that secondary teachers ask about the Internet. This research sought to identify how business teachers are using the Internet or if the Internet is being utilized. By finding the usage and availability of the Internet the researcher can draw conclusions about how the Internet is being used in the business curriculum and the status of the Internet in schools in the state of Illinois.

Population and Sample

The population for this study consisted of business teachers who were members of the Illinois Business Education Association. The researcher asked the Illinois Business Education Association Board for permission to use their member database for sampling. Once the board approved this request, John Majernik, membership coordinator, mailed two hundred fifty randomly selected mailing labels to the researcher. The mailing labels were in no apparent alphabetic or numeric order. The survey instrument was pilot tested, then sent to the selected Illinois Business Education Association members. The teachers

selected were from both rural and urban schools. The instrument was addressed to the business teacher.

Survey Instrument

The instrument used to collect the data for this study was a questionnaire prepared by the researcher. The instrument was developed to seek answers to the research questions. The questionnaire can be found in Appendix A. The questions came from the literature review and from advisor recommendations.

The survey instrument was used to find if the business teachers used the Internet, and how they implemented the Internet into their curriculum. The survey instrument was developed to determine the current status of Internet usage in Illinois public high schools. This survey was printed on earth-tone heavy-weight paper. It was one page with the cover letter and return address with return postage on one side and the actual questions on the other side. By paying the return postage the researcher hoped for a better response rate. Heavy weight paper was used so the respondents could tape the survey shut and place it in the mail without an envelope. Only one survey was damaged, but it was still usable. The respondents were told of the purpose of this study and the importance of returning it with the requested information. They were told of the confidentiality issue and that the results were being pooled together for all respondents. Also, if any teacher

wanted a copy of the results, they were asked to include their name and they received a copy of the results of the study.

First, a pilot test was sent to twenty-five randomly selected IBEA members taken from the two hundred fifty labels from the Illinois Business Education Association's member database. The survey was also reviewed and recommendations were made by the researcher's advisor before sending it for the pilot test. Once the results were received, only wording in two questions was changed to ensure content validity. After the changes, the revised survey was sent to the remaining two hundred twenty-five sample members.

Data Collection Procedures

The instrument was mailed to each selected teacher and consisted of a one-page cover letter and survey instrument with return postage. (see Appendix A)

The cover letter and the outside envelope were addressed to the business teacher at the school. The contents included in the envelope were approved by the researcher's advisor and then sealed and mailed. Nine out of twenty-five of the pilot tests were returned which made a 36 percent return rate. One hundred twenty-nine of the two hundred twenty-five surveys were returned which made a 57.3 percent return rate.

CHAPTER IV

Analysis of Data

Once the deadline expired to return the surveys the analysis took place. Each survey was read and the results were entered on a spreadsheet. The results were checked twice for accuracy.

Demographics

Table I illustrates that most of the teachers who completed this survey had at least ten years of teaching experience. A little less than 18 percent of those who completed the survey had less than ten years of teaching experience. This shows more maturity and experience, not always found when dealing with technology.

TABLE I
LENGTH IN YEARS AS A SECONDARY TEACHER

Years	Pilot Test	Percentage	Survey	Percentage
0-2	1	11.1	3	2.3
3-5	1	11.1	9	7.0
6-10	0	0	11	8.5
10+	7	77.8	106	82.2
Totals	9/25		129/225	

School's Access to the Internet

Of those surveyed, most high schools are "hooked up" by networked computers. Networked-commercial and networked-local were most prevalent in the access to the Net with 72 percent of the schools connected this way. Only 2.4 percent of the schools had no access at all to the Internet. The "other" category consisted of schools with networked T1 lines, networked wireless connections, LAN through 56K lines, and ISBE connections. Only 12.8 percent of those surveyed were stand alone, either locally provided or by a commercial provider such as America Online or CompuServe. (See Table II)

TABLE II
SCHOOL'S ACCESS TO THE INTERNET

Type of Access	Pilot	Percentage	Survey	Percentage
Stand Alone-Local	2	28.6	13	10.4
Stand Alone-Commercial	1	14.2	3	2.4
Networked-Local	4	57.2	67	53.6
Networked-Commercial	0	0	23	18.4
No Access	0	0	3	2.4
Other	0	0	16	12.8
Totals	7/25		125/225	

Integrating Internet Into The Curriculum

The Internet seems to be used in many different curriculum areas. Business was most prevalent, which is no surprise since the survey was sent to business teachers across Illinois. Business teachers perceived that the other curriculums, such as English and Science, used the Internet frequently (Table III). The "other" category consisted of Speech, Library Science, History, Art, Vocational Areas (Nursing & Agriculture), Music, Health, Current Events, and Economics.

TABLE III

CLASSES THAT INTEGRATE THE INTERNET INTO THE CURRICULUM

Class	Pilot	Survey
Business	6	106
Foreign Language	3	37
Math	2	32
English	3	79
Home Economics	3	25
Science	3	69
Social Studies	2	26
Other	3	33

Most business teachers (63.5 percent) surveyed said that twenty-five percent or less of the business curriculum is supplemented by the use of the Internet and its' resources. Seventeen percent of business teachers thought that 26-50 percent of the business curriculum is supplemented by the Internet. Seven percent of business teachers thought that 51-75 percent of the business curriculum is supplemented by the Internet. Only 4.7 percent of business teachers thought that more than 75 percent of the business curriculum is supplemented by the Internet.

TABLE IV
PERCENTAGE OF BUSINESS CURRICULUM REPORTEDLY
SUPPLEMENTED BY THE INTERNET

Percentage	Pilot	Percentage	Survey	Percentage
Less than 25%	8	88.9	82	63.5
26-50%	1	11.1	22	17.0
51-75%	0	0	9	7.0
More than 75%	0	0	6	4.7
No Access	0	0	10	7.8
Totals		9/25	129/225	

How Teachers and Students Are Trained to Use the Internet

Most teachers learned either on their own or by internal workshops through their own school. Twenty-three out of 129 said they had no training at all (Table V).

TABLE V

HOW TEACHERS ARE TRAINED TO USE THE INTERNET

Source of Training	Pilot	Survey
Workshops-Internal	7	100
Workshops-External	4	47
Learned on Own	6	80
College Courses	3	29
No Training	0	23

*respondents could select more than one option.

Students seemed to be taught the basics of the Internet in traditional classes. The library was the next most popular place to learn the Internet. Eighteen schools had an actual "Internet Class" that trained students more extensively than could be accomplished in a regular class. The "other" category included such classes as Introduction to Computers, Computer Skills, and Microcomputer Interdisciplinary Applications (Table VI).

TABLE VI
HOW STUDENTS ARE TRAINED TO USE THE INTERNET

Source of Training	Pilot	Survey
Individual Classes	6	86
an “Internet” class	0	18
Library	3	30
No Formal Training	1	17
Other	0	3

*respondents could select more than one option.

Purpose of the Internet

Over half of the teachers use the Internet for research and communication, where over half of the students use the Internet for research and for assignments. Projects were also very popular with teachers and students (Tables VII-VIII). Items that were not popular for teachers were games, company analysis, and web page development. Students hardly use the Internet for company analysis and investment information.

TABLE VII
PURPOSE OF INTERNET FOR TEACHERS

	Ranking (Pilot/Survey)		
	Most Important	2 nd choice	3 rd choice
Research	3/52	3/25	0/19
Games	0/0	0/1	0/3
Assignments	0/14	0/16	3/19
Communication	4/29	2/26	1/16
Company Analysis	0/0	0/3	1/6
Projects	0/11	2/24	2/23
Web Page Development	0/0	0/4	0/4
Investment Information	0/4	0/7	0/8
Other*	2/0	0/0	0/0

* Two respondents stated that they do not use the Internet for personal use.

TABLE VIII
PURPOSE OF INTERNET FOR STUDENTS

	Ranking		
	(Pilot/Survey)		
	Most Important	2 nd choice	3 rd choice
Research	5/63	1/16	2/12
Games	2/0	1/4	0/4
Assignments	0/18	1/43	5/20
Communication	2/11	3/9	0/13
Company Analysis	0/0	0/2	0/4
Projects	0/10	2/21	0/32
Web Page Development	0/1	0/1	0/8
Investment Information	0/0	0/3	0/2
Other	0/0	0/0	0/0

School's with an Internet Acceptable Usage Policy

Most schools have implemented an Internet Acceptable Usage Policy of some kind. One hundred three out of 119 did have an IAUP in place, eleven schools were in the process of implementing an IAUP, five schools did not have an IAUP, and ten respondents indicated they did not have a need for an IAUP since their school did not

have access to the Internet or the person who received the survey was a post-secondary educator. (See Table IX)

TABLE IX
SCHOOLS WITH AN INTERNET ACCEPTABLE USE POLICY

	Pilot	Percentage	Survey	Percentage
Yes	7	77.8	103	86.5
No	1	11.1	5	4.2
In process of implementing IAUP	1	11.1	11	9.3
Totals	9/25		119/225*	

*Ten respondents had no access to the Internet, therefore an IAUP was not necessary

The last survey question dealt with ways that business teachers could incorporate the Internet into the business curriculum. The following are ways that Illinois business teachers are currently using the Internet:

Accounting

- Company Financial Analysis
- Stock Market
- Projects
- Company Research
- Investment Programs
- Research
- Accounting Simulations
- E-mail
- Careers
- Assignments
- Research Accounting Firms

Secretarial

- Projects
- Communications
- Research
- Downloading files from Microsoft web page to be used with Office'97
- Careers
- Web Page Development
- PowerPoint Presentations
- Development of Yellow Pages for Web addresses
- Company information
- Making travel arrangements
- Discussion Topics
- Simulations

Business Law

- Current News
- Research Cases and Legal Issues
- Consumer Laws
- Juvenile Laws
- Case Law situations
- Court TV
- Mock Trial Info
- Projects
- Computer Ethics

General Business

- Research
- Investment Projects
- Stock Market games
- Business information
- Company analysis
- Consumer Education
- Tax Information
- Current Events
- Insurance

Global Economics
Projects
Careers
Simulations

Information Systems

Projects
Research
PowerPoint Presentations
Company Information
Up-to-date news
Careers
Web Page Development
Download files
E-mail
Software Updates
Ethics
Simulations
Graphics
Marketing
Investment Information

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

The Problem

This study was conducted to answer three primary questions. The first question was concerned with finding out where Illinois high schools stand with technology, more specifically the Internet. The second question dealt with finding the extent Illinois secondary business teachers use the Internet to supplement their curriculum. Finally, the third question tried to find out how the Internet is used in the secondary business curriculum.

The Subjects

This study utilized the Illinois Business Education Association member database to randomly select two hundred fifty names and addresses of Illinois business teachers.

The Procedure

The researcher surveyed Illinois secondary business teachers using a survey instrument developed for this study (See Appendix A). The instrument was mailed to each teacher selected for the sample and consisted of a one-page cover letter and survey instrument with return postage. The instrument was approved by the researcher's advisor

before the pilot test. There was a pilot test survey which consisted of ten percent of the overall count (twenty-five surveys).

Data Analysis

The data analysis took place once the return date had expired. Each survey was read and the results were entered on a spreadsheet. The results were checked twice for accuracy. There was a 57.3 percent return rate on the instrument with 129 of 225 surveys returned and a 36 percent return rate on the pilot with nine of 25 surveys returned.

Conclusions

The following conclusions can be drawn based on the research involving the Internet, business curriculum, and business teachers.

1. With most teachers surveyed having at least ten years teaching experience, they are better prepared to deal with Internet related changes in technology and the stresses that go with these changes.
2. Since most Illinois teachers have access to networked computers with local communication to the Internet they have an opportunity to use it every day in their respective curriculums.
3. Students at schools (only three percent) with no access to the Internet are at a disadvantage compared to other students. They do not have the same opportunities that other students get by having the Internet.

4. Because business courses lend themselves to technology and the Internet, it is no surprise that the business curriculum is integrated with the Internet more than any other subject.

5. Most teachers feel that less than twenty-five percent of the business curriculum is supplemented by the Internet.

6. Most business teachers are trained to use the Internet through in-service workshops given by their respective schools.

7. Most students are trained to use the Internet in traditional classes throughout the normal school day. Some schools do have an “Internet Class.” Integration allows the students to experience the Internet in a variety of ways.

8. Research drives teachers and students to use the Internet, since it has a very large research database.

9. To insure stability and maintain discipline, most schools have an Internet Acceptable Usage Policy in place to set guidelines for students’ while using the Internet.

10. Business teachers use the Internet to supplement their curriculum in a number of ways including accounting simulations, Court TV, current events, Power Point presentations, web page development and more.

Recommendations

Based on the findings of this study, recommendations in the following areas are appropriate:

Future Research

1. This study can serve as a research base for follow-up studies to continue observations of how the schools are using the Internet and how it influences business curriculum.
2. This study can serve as a research base for a more wide-scale study on the Internet in United States high schools rather than primarily Illinois. This would broaden the generalization of the findings.

Teacher Training

1. School districts should realize that training their employees should be as prevalent as purchasing new hardware. If the instructors of the new hardware do not know how to use it properly, then how do they teach their students?
2. Without training there may be a loss of interest that otherwise may be sparked from the actual training.

Other Recommendations for Business Teachers

1. The Internet should be used as a supplementary tool, not a replacement for curriculum or teachers. Use this tool wisely and the students will reap the benefits.

2. Continue to integrate the Internet into all business classes and expand as technology changes.
3. Assist other disciplines in using and integrating the Internet into classes.
4. When there is no access, means to access the Internet should be investigated and implemented.
5. Make Internet usage classes available to not only students, but adults in the community also.

Bibliography

- Andres, Y., (1992). CERF'n Safari. San Diego: California Education and Research Federation Network.
- Collis, B., (1996, November-December). The Internet as an Educational Innovation: Lessons from Experience with Computer Implementation. Educational Technology, 21.
- Connell, T., & Franklin, C. (1994). The Internet: Educational Issues. Library Trends, 42 (4), 608-623.
- Cromlish, C., (1996). The ABCs of the Internet. San Francisco: Sybex.
- Donahue, T. (1996, November). Distance Learning. Course Notes, 6 (2), 3-4.
- Doty, R. (1995, March). Teachers Aid. Internet World, 75-77.
- Dyrli, E.E., & Kinnaman, D.E. (1995). Connecting classrooms: School is more than a place! Technology and Learning, 15(8), 82-89.
- Ekedahl, M. & Newman, W. (1996, November). Technology Outlook. Course Notes, 6 (2), 1-6.
- Frazier, M. K. (1995). Caution: Students on board the Internet. Educational Leadership, 53 (2), 26-27.

- Giagnocavo, G., McLain, T., DiStefano, V., & Sturm, C.H. (1995). *Educator's Internet Companion: Classroom Connect's complete guide to educational resources on the Internet*. Lancaster, PA: Wentworth Worldwide Media.
- Harmon, A. (1997, October 25). Internet's Value In U. S. Schools Still in Question. The New York Times, p. A1.
- Hundt, R. (1996, October). Providing Opportunity for All Through the Telecommunications Revolution. NASSP, 80 (582), 3-10.
- Lambert, S., & Howe, W., (1993). Internet Basics. New York: Random House.
- Male, M. (1994). *Technology for inclusion: Meeting the special needs of all students*. Needham Heights, MA: Allyn & Bacon.
- Riley, R. (1995-1996, Winter). Connecting Classrooms, Computers, and Communities. Issues in Science and Technology, 49-52.
- Sanchez, R. (1995, October). A Wired Education. Internet World, 71-74.
- Stewart, C. (1995, March-April). "Going on the Net". Change, 27, 52.
- Swain, C., Bridges, D., & Hresko, W. (1996). The World Wide Web: A Classroom Adventure. Intervention in School and Clinic, 32 (2), 82-88.
- Ubois, J. (1995, October). The great facilitator: Educom VP Michael Roberts forges links between government, education, and the Net. Internet World, 62-68.

Wehmeyer, L., (1995). The Educators Information Highway. Lancaster: Technomic Publishing.

Williams, B., (1996). The World Wide Web for Teachers. Foster City, CA: IDG Books Worldwide, Inc.

APPENDIX

APPENDIX A

Survey Instrument

April 9, 1998

Dear Business Educator:

Your help is needed by completing the survey on the inside of this page. This survey was sent to 250 business teachers and will be used to determine Internet usage and availability in Illinois High Schools. If you do not teach business or high school, please forward this to someone you know.

There is a number at the top of this survey and it is used for accounting purposes only. Data will be used in the aggregate to tabulate the responses. Please be aware that all information provided will be kept confidential.

To ensure an accurate sample of Internet usage in Illinois public high schools, please take a few minutes to answer the following questions and return it by April 21, 1998. Please note that you re-fold this letter and there is a stamp provided. Please use tape, not a staple to close the letter. Thank you for taking time from your busy schedule. If you would like a copy of the results, please include your name and address.

Sincerely,

Nathan J. Aslinger

Nathan J. Aslinger
2837 Glenwood Avenue #9
Rockford, Illinois 61101

Directions: Please answer the following questions by marking an X by the most appropriate answer according to your school.

1. How long have you been a secondary teacher?
☐ 0-2 years ☐ 6-10 years
☐ 3-5 years ☐ more than 10 years
2. What is your school's access to the internet?
☐ stand alone computer through a local internet provider
☐ stand alone computer through a commercial provider (ex: AOL, Microsoft Internet Explorer, or Compuserve)
☐ networked computers through a local internet provider
☐ networked computers through a commercial provider
☐ our school has no access to the internet (If you select this one, you have completed this survey, please return this form as directed in the letter on the other side and thank you for your time.)
☐ other _____
3. In what classes is the internet integrated in your curriculum?
☐ Business ☐ English
☐ Foreign Language ☐ Home Economics
☐ Math ☐ Science
☐ Other(s) _____
4. What percentage of the business curriculum is supplemented by using the internet?
☐ Less than 25% ☐ 51%-75%
☐ 26%-50% ☐ More than 75%
5. Primarily, how are your school's teachers trained on how to use the internet and its' resources? (Check all that apply)
☐ workshops (internal) ☐ learned on own
☐ workshops (external) ☐ college class(es)
☐ the teachers had no formal training
6. How are your students trained for the internet?
☐ individual classes ☐ library
☐ an "Internet" class ☐ our school does not train students
☐ other _____

7. What purpose does the internet serve for you? Please rank in order of priority. (1-9, 1 being most relevant)
 _____ research _____ company analysis
 _____ games and simulations _____ projects
 _____ assignments, lesson plans _____ web page development
 _____ communication (e-mail, chat) _____ investment information
 _____ other _____
8. What purpose does the internet serve for your students? Please rank in order of priority. (1-9, 1 being most relevant)
 _____ research _____ company analysis
 _____ games and simulations _____ projects
 _____ assignments _____ web page development
 _____ communication _____ investment information
 _____ other _____
9. Does your school have an Internet Acceptable Use Policy?
☐ yes
☐ no
☐ we are in the process of implementing an IAUP
10. How do you use the internet for the following areas?
 Accounting
 Secretarial
 Business Law
 General Business
 Information Systems
 Other (please specify) _____