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The effects of dialog online searching on high school senior students

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Abstract

One of the goals in teaching writing has been to include research. Rural high school instructors have been faced with the additional burden of teaching research with limited resources. Kitzhaber (1968) also draws a similar conclusion when he states that "many small school libraries are too small to provide adequate information for all but a few research topics" (p. ii). Large urban school districts are often able to spend more on library books and indexes than are rural schools. On an average large schools spend $48,000 on materials compared to $15,000 by the small rural school districts (Heintz, & Hodes, 1981). The urban student also has the advantage of availability of large city, college, and university libraries. In the past few years, modern technology has given the small school a new tool which can help even this disparity. The increased availability of online database retrieval has given these rural high school instructors that added tool. The primary purpose for including online searching to these schools was to introduce students to a library service that would enable them to perform research with less difficulty, and to provide them with information sources that were not available before (Craver, 1985).

THE EFFECTS OF DIALOG ONLINE SEARCHING ON HIGH SCHOOL SENIOR STUDENTS

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CHAPTER I

Introduction

One of the goals in teaching writing has been to include research. Rural high school instructors have been faced with the additional burden of teaching research with limited resources. Kitzhaber (1968) also draws a similar conclusion when he states that "many small school libraries are too small to provide adequate information for all but a few research topics" (p. ii). Large urban school districts are often able to spend more on library books and indexes than are rural schools. On an average large schools spend $48,000 on materials compared to $15,000 by the small rural school districts (Heintz, & Hodes, 1981). The urban student also has the advantage of availability of large city, college, and university libraries. In the past few years, modern technology has given the small school a new tool which can help even this disparity. The increased availability of online database retrieval has given these rural high school instructors that added tool. The primary purpose for including online searching to these schools was to introduce students to a library service that would enable them to perform research with less difficulty, and to provide them with information sources that were not available before (Craver, 1985).

Roger Summit (1987) president of Dialog affirms this contention "It is the feeling of many that online retrieval training provides a good and useful introduction to the personal computer, that it encourages students to think more precisely in the formulation of research topics, and that it exposes them

to the existence of a broader range of reference and research materials" (p. 63).

Problem

What was the effect of introducing Dialog Information Retrieval Service to a class of twenty-one rural twelfth grade students in a college preparatory writing class? Did the students who used data base searching have a positive feeling about online retrieval after completing the exercise?

Purpose of the Study

There was a need for evidence to show that high school students in a rural setting will use online searching to help them with research projects. This study involved the presentation of online searching using Dialog Information Retrieval Service from Dialog Informational Services, a subsidiary of Lockheed Corporation. Dialog was chosen as the search source for two reasons: (a) Dialog has a Classroom Instruction Program; and (b) Over 50 percent of schools using data base searching use Dialog (Aversa and Mancall, 1987).

Hypothesis

The instruction of online data base searching to students, using Dialog Information Retrieval Service, would cause the students to respond in a positive manner in five areas: (a) students could do online searching; (b) students would end the instruction with a good feeling; (c) students would use online searching again if given the opportunity; (d) students would have additional sources of information; and (e) students would feel that online searching was an improvement over what they had previously used.

Variables

The study investigated two independent variables. The first variable was the number of searches completed by each student. The second variable was the depth of each topic chosen by the student.

Operational Definitions

Bluesheets: a Dialog publication that provides a file description, subject coverages, sources, file data, origin, a sample record, search options and output options for each database file.

Communication Program: a computer program that you use to make your computer talk to the online computer (Brophy, 1986).

Computer Hardware: the equipment needed to do online searching; a micro computer (Apple Macintosh, Apple II series, IBM or compatible), a printer with cables, and floppy disk drives or a hard disk drive.

Data Base System: a large computer with large numbers of bibliographic sources and full text records that can be searched over a online system. Systems include Dialog Informational System, Bibliographic Retrieval Services (BRS), Wilsonline and others.

Modem: a (modulator-demodulator) device which allows computers to use outside telephone lines.

Online data base searching: the searching of a large central data base such as Dialog Informational Retrieval Service by use of a telephone line and computer.

Password: a code given to a user, by data base companies, which allows the user to access a data base.

Significance

There is a need to show that database searching can be done in a rural setting and that the students involved can demonstrate a positive attitude toward online searches. There is a lack of evidence to show the relationship between small rural schools and database retrieval.

Limitations

1. The population of the students used in the study group was limited to the college preparatory writing class at Turkey Valley Community School District. This population included twenty-one seniors students.

2. Students were limited to completing online searches to the audio visual room.

3. The time limit for each lesson was limited to forty-three minutes. This allowed just enough time for instructing students on the basics of Dialog online searching. The time constraints did not allow for direct teaching that could have helped students with online searching terms they did not comprehend.

4. Individual searches could only be completed when the student was in study hall and this researcher was not obligated with other teaching related duties. Students had difficulty completing their searches because of the lack of available coordinated searching times.

5. Searching was limited to Dialog, one of three online data bases available. However, Dialog gave access to fifty-five percent of all available data bases (Hall & Brown, 1983).

Method

All students were instructed in the use of the Dialog Informational Retrieval Service from Palo Alto, California. The instruction was completed in a one week time span. The students then arranged with this researcher to prepare a search strategy and complete the online search. Each student completed the logon procedure as well as entering their search strategy in Dialog. This researcher was available to assist each student when assistance was required. The student was able to use the search print-out to assist them in their research. The students were able to use any available library including a trip to the University Of Northern Iowa library in Cedar Falls, Iowa. Students were able to complete as many searches as time permitted. At the completion of the semester the survey was provided to each student with instructions to return it to this researcher.

Summary

There were studies of students doing search strategies in large schools. However, there were no studies where students completed the actual search online or were located in small rural areas. This study was conducted to add to the research base showing small rural students were able to:
(a) formulate a search strategy; (b) enter the strategy online to Dialog; (c) make adaptations as necessary online; (d) complete the research process; and (e) have a good feeling about the searching experience.

CHAPTER II

Review of Literature

History of Online Retrieval

Online bibliographic searching has evolved over a period of 25 years. This new technology was made possible when two government agencies, the National Aeronautics and Space Administration (NASA) and the National Library of Medicine (NLM) developed an interactive searching program for searching their computer data banks in 1968 (Wozny, 1982). However, it was not "economically feasible and publicly available in North America" (Wilks, 1982 p. 1) until the seventies. The public sectors use of online retrieval has grown dramatically. In 1974 there were about seven hundred thousand online searches performed. By 1979, the number had risen to over 4 million searches (Craver & Ounanian, 1984). Dialog, for example, was offering more than twelve million citations with fifty-five different data bases during 1978 (Dowling & Kirsch, 1977). By 1982 the number of data bases had jumped to more than one hundred fifty (Wozny, 1982). In March of 1980, Radnor High School Library, Radnor, Pennsylvania became the first school to receive a Dialog password. Radnor was a highly academic suburban school with a strong periodical, book, and reference collection (Fliebert, 1985). Dialog states it has increased the number of secondary education subscribers in the Classroom Instruction Program (CIP) to seven hundred sixty-five with a total of over eighty thousand subscribers (J. Sykes Personal conversation, June 14,1988).

Goals and Objectives for Implementation

The first step in the implementation of any new program was the implementation of student goals. The goals for online searching as conceptualized by Aversa & Mancall (1987) were four fold: (1) online training should prepare students to become more knowledgeable information seekers; (2) students perceptions of how to access their information environment would be expanded; (3) By learning the electronic method of searching students will conceptualize the searching process; (4) online instruction opportunities to work together with teachers on research skills and integrate them with other classroom learning (1987). Tenopir (1986) also feels that the teaching of online searching skills would build closer ties between the library and the classroom.

Craver and Ounanian (1984) in their study of seniors at University High School in Urbana, Illinois set up nine objectives for students being end-users. They felt that end-users should: (a) Have a basic understanding of online searching; (b) be familiar with online searching terms; (c) be aware of the variety of databases and have an understanding of the selection process; (d) have a rudimentary understanding of thesauri and indexes which are used in staring an on line search strategy; (e) use Boolean logic in the preparation of an actual search; (f) be able to interpret bibliographic records and evaluate the results; (g) watch their online search be conducted on a online data base; (h) use some of the citations as research for their debate topic; and (i) be aware of pros and cons of doing online searching.

The Pruitt & Dowling (1985) study identified similar objectives in their study of seniors from the Montgomery County Public Schools in Maryland. Their objectives included some noticeable differences. They choose to include some of the more technical aspects of data base searching. Their objectives included: (a) Identify parts of a data base; (b) create a database; (c) How to access information stored on a data base; (d) Identify discriptors used in a topic being searched; (e) access information on a data base; (f) distinguish between different databases; (g) select a data base for a specific purpose; and (h) determine the characteristics of a specific data base.

Past Research Conclusions

There were very few studies of online searching in the literature. Wagers (1984) arrived at the same conclusion. He found very few accounts of online searching done in public schools. The two most common studies were done in Maryland and Philadelphia. These studies indicate instruction has been limited and largely experimental. Tenopir (1986) arrived at the same conclusion, that research on the use of online searching in public schools is of the experimental nature.

Problems With Print Resources

One problem for students in the research process was the complicated tools used to complete a search. Manual search tools include: (a) the card catalog; (b) Readers' Guide to Periodical Literature; (c) Facts on File; and (d) the vertical file. These printed indexes and card catalogs are arranged alphabetically or through the Sear's List of Subject Headings by H.W. Wilson

Company. This subject heading list lacks specificity and because it is revised every five years it does not reflect current or popular terminology that students often use to approach a topic.

To compound the problem, printed indexes often use complex indexing. For example, Readers' Guide has semimonthly, quarterly and annual cumulations that confronts the searcher. It also has embedded geographical subdivisions with subheadings which confuse the searcher. For example, if a user wishes to find information on the draft they must look under the term military service, compulsory. If the student uses Facts on File he must recognize that sub-entries are listed chronologically under alphabetically arranged topical headings with page column and marginal letter designations.

The second problem the student must confront is the lack of current resources. The lack of current resources is compounded by schools ordering material before the end of the school term in June for the following year. When material are ordered that far in advance of the next school year, there are events that may change the relevancy of material ordered. How does the librarian know what will happen during the political conventions? Or there will be new books published during the summer vacation which the librarian will not now about, and therefor not be able to purchase

The vertical file with its collection of clippings and magazine articles are hampered by the librarians lack of storage space, staff, and time needed to update the materials. The result means that periodicals are kept on hand for only a few years and newspapers for a

few months. Most schools do not subscribe to microfilm or microfiche back files of newspapers or periodicals (Pruitt & Dowling, 1985).

Problems Associated With Online Searching

Many of the disadvantages of adding online searching can be attributed to ignorance and fear (Roose, 1984). The dissadvantages for doing online searching can be divided into two areas, perceived problems and questions that need to be answered before getting involved with online searching.

Perceived Problems

The first area is believed cost. Lodish (1987) feels that cost is a major issue. In Blair High School the costs were approximately $1200 per year which were taken from the yearly library allocation.

The cost of doing searches, however, may not be as large a factor as many believe. Radnor High School in Pennsylvania averaged about $2.50 per search. It also noted that the costs went down as proficiency in online searching increased (Fliebert, 1985). Epler (1987) seems to support the earlier Fliebert study. She found the cost of searches ranged from $3.00 to $10.00. The mean figure was $9.05 and the medium was $6.68. Epler (1987) went on to say, that as students and librarians become more proficient in searching techniques, the cost will likely decrease.

The Second area is the the conception that computer databases are too difficult to use and understand. Many teachers and librarians don't realize the depth and quality needed by students in their classroom work. Roose (1984) goes on to say "that no information

resources should be arbitrarily declared off limits to young people"(p. 2010).

Another area of concern was once students see the efficiency and accuracy of online searching they won't like to do manual searching before being allowed to do online searching. Students often feel they are taught a skill and then discouraged from using it (Lodish, 1987). Dowling and Kirsch (1977) reached this same conclusion ten years earlier when they found online learning was used only when a manual search did not provide information requested. Another factor with manual searching is the fatigue that often occurs in long manual searches (Hall & Brown, 1983).

Tenopir (1986) also found many school librarians were still hesitant to introduce online retrieval. It was their fear that online searching would interfere with the learning of manual reference skills.

The fourth area of concern was the problem of locating cited resources. Not every student can get to other libraries to find necessary sources. Students also found that professional and university libraries were reluctant to give them assistance. Lodish (1987) goes on to say that the addition of more full-text databases and more efficient interlibrary loans could alleviate the problem. Fliebert (1987) was also concerned about the lack of full-text data bases

Questions

There were several overlying questions that involve online retrieval use in public schools (Roose, 1984) and (Aversa & Mancall, 1987). Each instructor contemplating online searching should examine these questions before proceeding: (a) should students be made to do intensive

manual searches before doing an online search? (b) who is going to pay for the online searching cost? (c) who will be allowed to search? (d) who will be permitted to request a search? (e) to whom will instruction in online searching be offered? (f) how much time online?

Benefits of Online Searching

The literature supports the concept of teaching students to do online searching was a definite plus. Studies such as Wagers (1984), Craver (1985), Brophy and Lynch (1986), Tenopir (1986), and Quint (1988)felt there were definite advantages to online searching. These studies went on to say that with added use and knowledge the benefits would only increase.

Brophy (1986) feels online searching would increase references capabilities of libraries regardless of size. He goes on to say by increasing capabilities you also increase the availability of reference materials. Wozny (1982) supports that contention when she states that a powerful argument for online searching was the diversity of materials listed in the students bibliographies. Lodish (1987) also feels that online searching will make students more aware of the increased resources available to them.

The second concept presented was online searching would increase the students knowledge of the quantity, scope, and quality of information "out there" (Brophy, 1986). Hall and Brown (1983) supported this concept when they stated online searching allows for a much deeper search than could be done with manual searching. They went on to say that there was a real fatigue factor involved when doing manual searching. Wozny (1982) stated in an earlier study that by using online

searching students were "diversifying their approach to information seeking"(.37)

The third concept was online searching would increase the chances of academic success and prepare the student for college (Brophy, 1986). Students would improve their research skills by using the knowledge gained form problem-solving skills and use of the logical thinking process contends Tenopir (1986). Lodish (1987) also felt online searching provided students a place to reinforce researching and thinking skill. He went on to say "students learn the importance and skill involved in narrowing a topic" (p. 29).

The fourth area supported the idea of information being more current. The Wozny (1982) study documented this contention. She found eighty percent of the students used at least one item published within the past two years. The study went on to show, more than one-half of the students used no material more than five years old. Fliebert (1985) also found the information received to be more current. Tenopir (1986) felt online searching provided students with a wide variety of information sources. She went on to say students using online searching no longer solely relied on articles from popular magazines but went on to specialized journals, government documents, research reports and conference reports.

The fifth area dealt with the speed in which material could be found. Fliebert (1985) contended that materials found were found much quicker using online searching. Roose (1984) supports the contention by stating computer searches often take a tenth of the time as manual searching, a savings of 1000 percent.

The last area dealt with the feeling of students who had used online searching. Students were excited about online searching contended Lodish (1987). They were often surprised at their search results. Students seemed to enjoy doing online research. They soon discovered online searching could be a pleasurable experience (Tenopir, 1986). Students had no fear in their attempt to grasp the online information. They were ready to grasp Boolean logic and use it in their searching. "It is fascinating to watch these young fertile minds at work" (Dowling & Kirsch, 1977 p. 37).

Summary

One line searching should become the fourth "R" (Reading, Ritin', Rithmatic, and Retrieval) (Summit, 1987). Summit went on to say there was a need to create a mass demand to add information access training to the core curriculum of secondary schools. The long-run effect of online retrieval was that we would have a "generation of information literate individuals" (p. 64).

Use of online searching would be a boon for all who need access to information. However, online searching should not be a replacement for anything but should be an addition to the past more traditional services (Brophy, 1987). Dowling and Kirsch felt (1977) "Perhaps in the not-too-distant future a computer terminal in a school media center will be as fundamental as a card catalog!" (p. 38).

CHAPTER III

Method

The purpose of this study was to find out if after the instruction of online data base searching to students, using Dialog Information Retrieval Service, would cause the students to respond in a positive manner in five areas: (a) students could do online searching; (b) students would end the instruction with a positive attitude; (c) students would use online searching again if given the opportunity; (d) students would have additional sources of information for their research paper; and (e) students would state that online searching was an improvement over what they had previously used.

Subjects

All Twenty-one students in the second semester college preparatory writing class composed of seniors in the Turkey Valley Community School District in Jackson Junction, Iowa were selected to be the study group. The group was composed of four boys and seventeen girls. There were no other college preparatory classes available for this study. None of the students had previous training in online retrieval. Some students had taken computer programing class previously. All students had experience using Appleworks wordprocessor software on a computer.

Materials

All students were instructed in the use of Dialog online retrieval. The students were instructed by the instructor and this researcher. The basic materials used in the instruction were from Dialog Informational Retrieval Service and materials developed in a

instructional development project at University of Northern Iowa (Overgaard, 1987).

The class time was restricted to the standard forty-three minute period. The material had to be presented in one week do to the English teacher's time constraints. The class began with an overview of Dialog and what online retrieval was all about. Students watched a short video tape "Introduction to Searching DIALOG." A short demonstration of an actual search with Donnelley Demographics, on one of the towns in the community, completed the introduction. The entire class was able to see the presentation with the use of a television camera focused on the Macintosh screen and viewed on a twenty-seven inch monitor.

The lessons were presented by team teaching using an overhead projector and samples developed from Dialog training materials. Students were able to ask questions and react with samples displayed on the screen. At the end of the instruction, with instructor guidance, the class choose a topic. The search was demonstrated with input from the class. Again a television camera and monitor were used so all class members could see the results.

The college preparatory students were given an assignment to write a research paper. The students were to do at least one online search to help them locate research materials. The students were to arrange with this researcher for time to complete their search.

When the students met with this researcher they were to have started their search strategy. All search topics were to be approved by the English instructor, Ms. Marilyn Hageman, who was the other team instructor

in this project. The students discused their strategy with this researcher and modifications were made if necessary. Possible data bases were selected and print-out forms were selected.

The students logged-on the computer and initiated their search. If the searches were successful, the materials were saved and printed on duplicate computer paper. One copy of the search print-out was given to the student and one copy was given to the English teacher. If the search was unsuccessful, the students reevaluated their search strategy and repeated the process.

At the completion of the spring semester a survey was presented to the students by English teacher with the comment that the form was being used to evaluate the use of online searching (Appendix A). Students were not required to return the form. Forms were to be returned to the researcher's room and placed in a box.

Procedures

Permission to use the college preparatory class for the study was discussed and approved by the English teacher and the High School Principal of Turkey Valley Community School District. A time schedule was set up with the English teacher to have the training take place at the same time as the major research papers were to be written.

Students had all searches approved by the English teacher. The students had discussed their search strategy and selected possible data bases with this researcher before the searches were attempted. Copies of the searches and the materials received on line were given to the English teacher. This researcher assisted

the students with the search but the actual online searches were completed by the students.

Students were able to use any available library including the University Of Northern Iowa library in Cedar Falls, Iowa to find sources listed in the citations. Students were able to complete as many searches as time permitted. At the completion of the semester a survey was provided to each student with instructions to return it to this researcher.

Statistical Analysis

A survey was developed to determine student feelings about online database retrieval. The survey was designed to measure attitudes with a Likert scale style format. The degree range varied from one to five with one being the highest rank and five the lowest. The students were given the opportunity, if they desired, to write comments about their experience with online retrieval and how useful they viewed the print-outs.

Summary

Twenty one senior college preparatory writing students at Turkey Valley Community School in Jackson Junction, Iowa were selected to take part in a online database retrieval survey. Dialog Information Services, Inc was selected to be the data base used for instruction purposes. Students were instructed over five days. The surveys were administered at the end of the spring semester.

The results would support the hypothesis if the majority of rankings fell in the one and two ranking. If the ranking occurred in the four and five range it would be considered a negative response.

CHAPTER IV

Results

The purpose of this study was to find out if the instruction of online data base searching to students, using Dialog Information Retrieval Service, would cause the students to respond in a positive manner in five areas: (a) students could do online searching; (b) students would end the instruction with a positive attitude; (c) students would use online searching again if given the opportunity; (d) students would have additional sources of information to use in their research paper; and (e) students would state online searching was an improvement over what they had previously used.

Analysis of Data

The results from the students were based on twenty returned forms. There were twenty-three forms distributed. The average number of searches done per student was one and three-fourths. The largest number of searches completed was three and the smallest number of searches was one.

The rating scale was converted to a yes or no response by dividing it into three parts. If the rating was a one or two it was considered a yes. If the rating was a four or five it was considered a no. If the rating was a three it was neither a yes or no and was not compiled.

The first section of the form dealt with student feelings about computers and doing research in high school libraries (Table I). Ninety percent of the students were very conformable with computers. The

students were satisfied with material available in the library half of the time. But when the students were asked about the card catalog and Reader's Guide only twenty percent though they had advantages over online retrieval. Students especially liked the speed they were able to find information about their topic. Comments about the time saving factor included: "I didn't have to write everything down, it took less time." "I went right to the shelves and looked without wasting a lot of time." "They [the search print-out] saved time looking up information" (Table V).

Table I
Feelings About Computers and Research in High School Libraries

Question	Yes	Total	Percent
Libraries have adequate information	10	20	50%
Computers have been easy to work with	18	20	90%
The card catalog has advantages over online searching	4	20	20%
Readers Guide has advantages over on searching	4	20	20%

Can students do online searching? The answer is yes. Table II shows how students felt about learning online searching. Only thirty percent of the students

felt Dialog was difficult to learn. Table II continues to show seventy percent felt online training was easy to accomplish in a high school setting. Sixty-five percent of the students felt the printouts obtained from Dialog were easy to use. The students found the needed materials seventy-five percent of the time.

In the Craver (1985) and Wozny (1982) study students were not given the opportunity to enter their own search. In this study students developed their search strategy and entered it on the computer. Sixty-five percent of these students felt entering in their own search on computer was an excellent idea. Forty-five percent of the students received more sources than they anticipated according to table II. In many cases students found additional sources but could not get to the source. Students stated graphically in Table V: "No, our library doesn't have anything." "No, because we have very little information." "Not really most of my printouts were from major newspapers we didn't have in the library." This problem was alluded to in the literature search. One of the alternatives was the full text data bases. Students who found full text sources were pleased. Comments included: "I couldn't find much information before I used Dialog." "I was able to see what the (book) etc. was like before having to go find it." "They helped to find things easier." "I had it all in front of me--I just had to find it."

Table II

Feelings About Learning Database Searching

Question	Yes	Total	Percent
It was difficult to learn Dialog	6	20	30%
Computer experience was essential	6	20	30%
Key words were a problem	5	20	25%
To logon was easy	8	20	40%
I understood search strategies	8	20	40%
It was easy to find the right data base	7	20	35%
I liked having assistance with searches	17	20	85%
Searching in high school setting was a good idea	19	20	95%
The print out was easy to use	13	20	65%
Save Temp command was used	6	20	30%
More sources were received than anticipated	9	20	45%
Finding material listed was easy	12	20	60%
I found needed books and articles	15	20	75%

Table III shows if students would end the exercise with a good feeling. Students responded seventy-five percent of the time that they ended the experience with a good feeling (Table III). Sixty-five percent of the students felt students other than college students could benefit from the experience. The table continues on to show that only fifteen percent of the students would not use database searching in the future. This response might have been affected by the short time allotted for the online searching. The comments given at the end of the survey reflected on this concern: "Never had time to do enough. Could or should have used other class time." Another student reflected "I wish we would have spent more time together as a class defining the data base more" (Table V).

Table III
Feelings About Using Database Searching

Question	Yes	Total	Percent
It was a good idea to let students do their own search	13	20	65%
I became confident using Dialog	15	20	75%
It was a educational benefit to learn Dialog	17	20	85%
More time was needed	14	20	70%
I was glad I had the opportunity	17	20	85%
I would not use data base searching again	3	20	15%
Other than college bound students should learn data base searching	13	20	65%
I feel good about online searching	15	20	75%
Online searching should be done before my senior year	15	20	75%

A key part of learning online searching was the use of keywords and Boolean logic as pointed out in the literature search. According to the table IV, only twenty-five percent of the students, after completing Dialog training, found this was a problem. The skills

needed for online searching were also no problem. Over seventy-five percent of the responses referring to searching skills were in the positive.

Table IV
The Rating of Skills Used in Database Searching

Skill Needed	Yes	Total	Percent
Keyboarding (typing)	11	20	55%
Determining key words	19	20	95%
Using basic search commands	16	20	80%
Using the "and," "or" and "not" command	19	20	95%
Using the "(W)" and "(N)" commands	17	20	85%
Using the "T" or type command	10	20	50%
Using the Bluesheets	4	18	22%
Knowledge of the computer usage	16	20	80%

Table V provides comments students wished to make in three areas. The responses provide insight at how students felt about online searching in their own words.

Table V

Responses From the Opinion Section

Question 1: Are there alternatives other than using Dialog for finding resource materials?

Responses:

Yes but they take too long.

I'm sure there is.

Yes you could use the old method by using the card catalog.

Yes library books, card catalog, Readers' Guide, Keystone.

Just go to the library.

Card catalog Readers' Guide

Library resources and interviews.

Readers' Guide, write to people for info about the topic, card catalog, depends what info you need and the kind it is--depending on that determines where you should look for information.

Yes libraries, card catalogs, reader guides

College libraries

Yes Readers' Guide, card catalog

Readers' Guide

Yes library catalogs and periodicals

Yes the majority of my material came from the help of the Readers' Guide to Periodical Literature.

By looking in the card catalog.

Question 2: Were the printouts useful when you went to the library? Please Explain.

Responses:

No, our library doesn't have anything.

No, because we have very little information.

Not really most of my printouts were from major newspapers we didn't have in the library.

I didn't get it narrowed down enough to be very useful.

Yes gave different ideas of resources, easy to find.

Yes I knew exactly what to look for.

I used full printouts and the magazines I needed were not at the school library.

Yes helped you easily find articles pertaining to your subject if the articles were in stock.

Yes easy to find, especially magazines and newspaper articles

Yes they gave me some idea where to go to look for information in magazines.

Yes they were articles and books that dealt with just specific aspects of my topic which eliminated excess information.

Yes I didn't have to write everything down, it took less time.

Yes I went right to the shelves and look without wasting a lot of time.

Yes they saved time looking up information.
Yes I couldn't find much information before I used Dialog.
Yes I was able to see what the (book) etc. was like before having to go find it.
Yes they helped to find things easier.
Yes I had it all in front of me--I just had to find it.

Question 3: Make any additional comments.

Responses:

I'm glad I got to use Dialog in high school because once at college I'll be using it at the library for doing my papers...Dialog was very helpful for finding the correct magazines to look in. I thought it was great! A nice easy way to get research other than spending the needless hours in the library researching the same things.

Start with 10th. graders using Dialog.

Excellent, but must be able to use what's there.

It was confusing, but also very helpful.

All-around good experience but it's hard to do unassisted.

Never had time to do enough. Could or should have used other class time.

I wish we would have spent more time together as a class defining the data base more...hard to come in when you are available. Also search commands were kind of perplexing to me.

I liked it.

Summary

The purpose of this study was to find out if after the instruction of online data base searching to students, using Dialog Information Retrieval Service, would cause the students to respond in a positive manner in five areas: (a) students could do online searching; (b) students would end the instruction with a good

feeling; (c) students would use online searching again if given the opportunity; (d) students would have additional sources of information; and (e) students would feel online searching was an improvement over what they had previously used. After reviewing the results from the students surveys there was a positive response to all five areas.

CHAPTER V

Summary, Conclusions and Recommendations

Summary

The purpose of this study was to find out if, after instructing students on the use of Dialog, students would respond in a positive manner in five areas: (a) students could do online searching; (b) students would end the instruction with a good feeling; (c) students would use online searching again if given the opportunity; (d) students would have additional sources of information; and (e) students would feel that online searching was an improvement over what they had previously used. After tabulation, the positive responses were well above the fifty percent range and were as high as ninety-five percent.

Analysis of Data

The results from the students were based on the twenty forms returned. There were twenty-three forms distributed. The mean number of searches done per student was one and three-fourths. The range of searches compleated was one to three.

The rating scale was converted to a yes or no response by dividing it into three parts. A one or two was considered a yes. A four or five it was considered a no. A three rating was neither a yes or no and was not compiled as it was considered to be a nonresponse.

The analysis of data confirmed students responded in a positive manner in all five areas of concern. The students responded in a positive manner about their ability to do online searches. The students ended the experience with a good feeling about online searching. Students responded that they would use online searching

if given the opportunity. Students used additional sources of information on their research papers. Finally the students felt that online searching was a definite improvement over manual searching.

Ms.Marilyn Hageman observed the students and responded to their experience (Appendix B). She was surprised by what they found. She found that students were using full text materials obtained from a Dialog searches "which really helps a smaller school provide greater access to information." Students are aware of database searching and suggested to other students that they too try it. She went on to say that if it had not been a good experience, they would not have recommended others to try it. Students use the same "thinking" strategy they used in their search to write their paper. She also noted that students were proud of their searches and the printouts they received. If it did not work students commented, "I know what I gotta do, I gotta change my strategy. I didn't have the right words..." She went on to say "Those remarks incorporate two goals of education: students learn to think for themselves and they develop pride in their personal learning." Ms. Hageman continued, "database searching is a remarkable student learning opportunity with both immediate and long-term benefits."

Recommendations

Should small rural schools implement online retrieval? This researcher feels the answer is yes. On line searching will benefit the teachers, the students, the school. There would also be a benefit to higher education and business.

How will it benefit teachers in small rural schools? This researcher suggests that teachers will benefit from students using information, that before online searching, was unavailable. They will also benefit from information that will be up to date. Teachers will no longer have to wonder if the library has any technical or recent information that they may wish a student to explore. These teachers will no longer be hampered with lack of materials to instruct students on research techniques. The comments from Ms. Hageman supported her enthusiasm for using online searching (Appendix B). By the use of this technology small schools will no longer be faced with the lack of adequate research resources.

How will it benefit students in small rural schools? Online searching will allow students from small rural schools to have the same research possibilities as students in larger urban schools. These students with online retrieval background will have significant advantages over students who have not had the instruction. When these students graduate from high school and attend schools of higher education they will be able to use online retrieval to help them with their research.

The next question is will the students use this new found technology. The study supports this researchers contention that they will (Tables I through V). For example one student states "I'm glad I got to use Dialog in high school because once at college I'll be using it at the library for doing my papers." Another student went on to say, "I thought is was great"(Table V). The

English teacher's comments again add credibility to the contention that students will use online searching.

Will online searching benefit the small school? Again the answer is yes. The library will be the biggest benefactor. The library will have access to materials they have not been able to afford in the past. Many of the indexes are used very little and can not be justified for purchase. But with the online retrieval the library will have access to these indexes when they are needed. The library will likely be used more because students will have confidence that needed material for a research project can be located with out spending many fruitless hours. The students again supported this with comments like: "There were articles and books that dealt with just specific aspects of my topic which eliminated excess information." or "I couldn't find much information before I used Dialog." another stated "helped find things easier" (Table V).

Small rural school districts are often concerned with costs of adding new programs. The beauty of adding online searching to a school district is the limited cost impact to the district.

Most schools have computers and printers in their buildings so little new equipment would have to purchased. Districts would have to purchase a modem and software program to communicate to the database supplier. Some large database suppliers even offer special rates for schools. Dialog, for example offers the Classroom Instruction Program (CIP) for fifteen dollars per hour of connect time (Pruitt and Dowling, 1985).

There is a major problem problem which needs to be addressed. Some students could not find documents listed in the print-outs as stated by this student: "..most of my printouts were from major newspapers we didn't have in the library" (Table V). Much of this problem can be solved by having major suppliers add more full text citations. If the major online retrieval services add more full text databases, online searching will become an even more viable research source for small rural schools.

This researcher feels that small rural schools should be implementing online searching, because of the benefits to the school, student, and teacher far outweigh the problem addressed. But before a school implements a database searching program, it should be able to answer the following questions (Roose, 1984; Aversa & Mancall, 1987): (a) should students be made to do intensive manual searches before doing an online search? (b) who is going to pay for the online searching cost? (c) who will be allowed to search? (d) who will be permitted to request a search? (e) to whom will instruction in online searching be offered? (f) how much time online?

This study could be replicated with a larger study. The size of class may have influenced the outcome which would not show up in a larger study population. It is often difficult to find large number of students in a rural school setting.

This study could also be replicated by increasing the time used to instruct the students. More time for students to complete online searches also could be

added. This would give the students more time to do additional online searches.

The following recommendations are made for further study:

1. Replicate the study using more than one small rural school district.

2. Replicate the study using a longer instructional time span.

3. Replicate the study using different database subscribers.

Concluding Remarks

This topic was chosen because of the problems small rural schools have in teaching research skills as a result of inadequate facilities. The advent of online retrieval services and the access now available to small school districts can give them the same opportunities as larger districts have had in the past. More online full text databases will be added by major database suppliers to make this an even more powerful teaching tool.

As Barbara Quint (1988) puts it "Online databases are not a cherry on a library's hot fudge sundae. They are the meat and potatoes, bread and salt, the five basic food elements. Without them, many questions simply do not get answered" (p.69).

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Appendix A

DIRECTIONS: Please indicate the degree to which you agree or disagree with the following statements.

Feelings about doing research in high school libraries and computers.

Agree<-->Disagree

1. I have found that school libraries have adequate information to do a research project ..... 1. 2. 3. 4. 5.
2. Computers have been easy to work with ..... 1. 2. 3. 4. 5.
3. The card catalog has definite advantages over the database search ..... 1. 2. 3. 4. 5.
4. Readers Guide to Periodical Literature has definite advantages over database searching ..... 1. 2. 3. 4. 5.

Feelings about learning Dialog data base searching

5. It was difficult to learn Dialog (data base searching) ..... 1. 2. 3. 4. 5.
6. Having had previous experience with computers was essential before learning Dialog searching ..... 1. 2. 3. 4. 5.
7. Determining key words was a problem in starting a search ..... 1. 2. 3. 4. 5.
8. It was easy to "logon" to Dialog ..... 1. 2. 3. 4. 5.
9. I understood how to start a search strategy after it was explained to me..... 1. 2. 3. 4. 5.
10. It was easy to find the right Dialog database ..... 1. 2. 3. 4. 5.
11. I liked having someone to assist me in my searches..... 1. 2. 3. 4. 5.
12. Learning database searching was easy in a high school setting..... 1. 2. 3. 4. 5.
13. The printout obtained from the database search was easy to use..... 1. 2. 3. 4. 5.
14. I used the Save Temp command during my searches ..... 1. 2. 3. 4. 5.
15. I received more sources than I anticipated ..... 1. 2. 3. 4. 5.
16 Finding materials listed in the database search was easy..... 1. 2. 3. 4. 5.
17. By using a Dialog search and the printout, I found needed books and articles ..... 1. 2. 3. 4. 5.

Feelings about using Dialog data base searching.

18. It was a good idea to allow us students to do our own Dialog search with minimal assistance ..... 1. 2. 3. 4. 5.
19. The more I used Dialog, the more confident I became ..... 1. 2. 3. 4. 5.
20. It was an educational benefit for us to learn Dialog searching..... 1. 2. 3. 4. 5.
21. I wanted more time to work with Dialog searching..... 1. 2. 3. 4. 5.
22. I was glad I had the opportunity to use Dialog in high school ..... 1. 2. 3. 4. 5.
23. I will use Dialog database searching if given the opportunity in the future ... 1. 2. 3. 4. 5.
24. Students other than college bound can benefit from using Dialog ..... 1. 2. 3. 4. 5.
25. After using Dialog data base searching, I feel good about doing searches.... 1. 2. 3. 4. 5.
26. Dialog data base searching should be taught sooner than my senior year..... 1. 2. 3. 4. 5.

27. How many Dialog searches did you do?..... 1. 2. 3. 4. 5.

Rate the following skills you used in doing a data base search according to how important you feel they are.

Very Important<-->Unimportant

28. Keyboarding (typing) ..... 1. 2. 3. 4. 5.
29. Determining key words in your search..... 1. 2. 3. 4. 5.
30. Using basic search commands..... 1. 2. 3. 4. 5.
31. Using the "and", "or" and "not" commands..... 1. 2. 3. 4. 5.
32. Using the connectors "(W)" and "(N)" ..... 1. 2. 3. 4. 5.
33. Using the "T" type command ..... 1. 2. 3. 4. 5.
34. Using the Bluesheets..... 1. 2. 3. 4. 5.
35. Operating the computer ..... 1. 2. 3. 4. 5.

36. Are there alternatives other than using Dialog database searching for finding resources materials?

37. Were the printouts useful when you went to the library? Please explain.

38. If you would like to make any other comments, please make them below.

Appendix B

On Using Dialog Database Searching--A Teacher Opinion

With the instructional leadership and guidance of Odell Overgaard, senior Turkey Valley College Prep Writing students have been using DIALOG database searching for two years in conjunction with their researching for formal papers.

The value of that researching tool is quite evident:

(1) Students actively use their searching results in locating library materials. I see my seniors referring to their printouts as they search in both high school and college libraries. Often I am surprised by what they find, and when I inquire how they find the material, the response is, "I got it off the computer search." I have the seniors turn in their printouts at the end of the semester along with their writings, so I see the printouts after they have been used, and I am delighted to see that students have made annotations right on the printout and personal remarks about the items found or not found.

(2) Students directly use full text materials obtained from a Dialog search in their writings. Items not accessible locally but available full text appear in documented form on their formal writings. Obviously, this has become an additional source which really helps a smaller school provide greater access to information.

(3) Students are not only aware of database searching, but openly refer to it and encourage

others to pursue its use. I have overheard students from my class strongly suggest to other students who are doing research-based projects for other classes to "try using Dialog, Mr. Overgaard will help you." I don't think they would make that recommendation if the experience had not been positive for the seniors in the first place.

(4) Students often later use the same "thinking" strategy in searching for material locally that they first learned in writing their search strategy for Dialog. The concepts of looking for key words, broadening a search, narrowing a search, finding alternative words for searching, etc., are easy to build upon once the students have had a concrete experience with them through Dialog searching.

(5) Students are justifiably proud when they finish a search and return to the "regular" classroom carrying their printout. The look on their face alone is saying, "I did it! It worked!" Any speculation from other is dismissed with "It wasn't hard, Mr. Overgaard help[s you through it." and when I ask if the printout looks promising, I usually get the reply, "yeah, look at this, there's lots of stuff on here." If a student did not have much "luck" in the search, the comment usually is, "I know what I gotta do, I gotta change my strategy. I didn't have the right words..." Those remarks incorporate two goals of education: students learn to think for themselves and they develop pride in their personal learning.

Student access to database searching is a remarkable student learning opportunity with both immediate and long-term benefits. I certainly am pleased and grateful that our school district and medial coordinator Mr. Overgaard have supported the utilization of database searching.

Marilyn Hageman, College Prep Writing Instructor