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ABSTRACT

A study was conducted to determine the status of Internet access and usage in selected rural schools of northeast Alabama, and to contribute to an ongoing database that describes Internet access and usage in rural schools as a benchmark for future study. A 28-item survey of 107 teachers and media specialists in 18 selected rural schools in northeast Alabama measured Internet usage for grades 6, 7, and 8. The survey measured usage across three major categories: resources, use of computers, and training. Survey results include: (1) 54% of teachers rated the number of computers in their school as poor; (2) 37% indicated less than five computers with access to the Internet; (3) 43% of teachers never have access to a computer that has Internet access; (4) 45% of teachers reported that students never use the Internet at school; and (5) 78% of teachers would be interested in using the Internet as part of their instructional process. The significant barriers to Internet use are limited technological resources, insufficient use of computers, and a need for further Internet training. Recommendations include steps to improve Internet access and usage, and training options for teachers in Alabama. Internet survey questions and results are included. (Author/SWC)

Running head: RURAL SCHOOLS INTERNET USAGE

A Survey of Internet Access and Usage in a Selected Sample of Northeast Alabama Schools, Grades 6,7,8,

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Abstract

The purpose of the study was to (1) determine the status of Internet access and usage in selected rural schools of northeast Alabama and to (2) contribute to an ongoing database that describes Internet access and usage in rural schools as a benchmark for future study. A 28 item survey of 18 selected rural schools in northeast Alabama measured Internet usage. One hundred and seven teachers participated in the survey. The survey instrument measured usage across three major categories: resources, use of computers, and training. A descriptive analysis of the questions revealed limited technological resources, insufficient use of computers, and a need for further Internet training. Respondents identified significant barriers to Internet use. Recommendations include steps to improve Internet access and usage.

A Survey of Internet Access and Usage in a Selected Sample of Northeast Alabama Schools, Grades 6, 7, and 8

Instructional technology has received a great deal of emphasis nationwide (Hamra, 1995). In the State of Alabama, technology is of major interest to educators, politicians, and the public. Often presented as one answer to the current crisis in public schools, proponents envision technology as a catalyst to school reform. Instructional technology is credited as a possible tool in providing equal access to educational opportunities. Telecommunications can "help rural schools overcome disadvantages of remoteness, geographical isolation, lack of specialized staff, and limited program offerings" (Barker & Taylor, 1993, p. 1). However, technology funding is expensive, and policymakers at all levels will determine whether implementation is a priority. Alabama, for example, is surrounded by states that provide funding exceeding levels allocated to Alabama schools. The profits from lotteries in adjoining states are used to fund technology to a degree not possible in Alabama. This growing disparity between the information haves and have nots in the information age is of vital concern. For rural citizens, the disparity is particularly significant. Technology for rural areas could close the gap, thus ending rural isolation and delivering a variety of services including social, health related, and educational. Modern telecommunications could be as vital to rural areas as roads (Cisler, 1991). While the need for telecommunications is apparent, rural areas are often underserved (Brown, Barram, David, & Irving, 1995). Among the factors affecting adequate access to telecommunications are income, age, and education (Internet). Also, deregulation affects access in rural areas and will have to be closely monitored to control the growth of competitive service providers ("Survey of Rural," 1995). Additionally, the educational and cultural capital available to rural communities may not

be adequate to support the degree of educational innovation that the Internet represents ("Green County Technology"). Because of this infrastructure inadequacy, rural public institutions will need to become involved in providing the social and economic benefits that would otherwise be absent (Hamra, 1995). Regarding availability of technology, Mehlinger(1996) stated:

> No one knows for certain what kind of technology exists in schools, how it is used, how much it is used, whether what exists is broken, worn-out, or still in unopened boxes. (p. 403)

Researchers have only general information based on studies performed by individuals and organizations. For example, in 1981 about 18% of schools had computers compared to 98% in 1994. Access to computers, however, is still limited with a ratio in all grades of 14 students to 1 computer in 1994 with one hour per week per student for "stand alone" computers. Regarding computer network access, networks thrive in business and higher education, but are small and just beginning to grow in K-12 schools (Mehlinger, 1996). For this reason, the Clinton Administration proposes a national infrastructure that would support school connections to network resources (Hamra, 1995).

As Maddux (1994) points out, "Until the numbers and types of computers and peripherals in schools improve greatly, it is probably unrealistic to think that telecommunications and the Internet can revolutionize teaching and learning" (p. 39). However, access alone is not enough. In order to use technology and the Internet, teachers and students will need an ongoing training program ("Weakley County Schools"). It is encouraging to note that several major educational studies indicated a positive increase in student learning when computer access was sufficient (Mehlinger, 1996).

In view of the relevancy of telecommunications and the Internet to rural education, this study was designed to (1) determine the status of Internet access and usage in selected rural schools of northeast Alabama and to (2) contribute to an ongoing database that describes Internet access and usage in rural schools presently and to serve as a future benchmark for study.

Method

Subjects

The sample consisted of 107 respondents (25% male and 75% female). Most of the respondents (69%) were between the ages of 31 and 50 years old, and 92% were faculty. There was almost an equal distribution of grades and subjects taught from grades 6 to 8, and more than 88% taught 50+ students per day.

Data Collection and Analysis

A 28 item survey was sent to eight county superintendents representing 26 schools in northeast Alabama. Seven superintendents granted permission for their schools to participate in the study. Surveys were then sent to 18 schools. Thirteen of the schools had the 6, 7 and 8th grades in the same building. Two schools had 5-12 grades. Two schools had 7-12 grades, and one school had 5-6 grades. The schools had a total enrollment of 10,834 students.

Respondents were limited to faculty and media specialists. Questions were designed to be answered in a multiple choice format on scantron sheets. The questionnaire assessed activities across two major components, access and use. Teachers were asked to respond only once to each question. Participants were told not to use their name or any other identifying information. Superintendents and principals were assured that their individual schools' responses would not be identified in the study.

Results

The results indicated data on three major categories: limited resources, low useage of computers, and lack of training. First, the survey found a perception of limited resources by school teachers at this time. For example, 54% of teachers rate the number of computers in their school as poor, 37% indicate less than 5 computers with access to the Internet, and, although 91% of the faculty had access to a computer at school, 45% indicated that there was no formal technology plan for Internet access.

Second, the survey found a low use of computers with the Internet. For example, 43% never have access to a computer at school that provides Internet services, 66% never use gopher, WEB, or other on-line services, 88% do not teach their students how to use the Internet, 45% of the students never use the Internet at school, 74% never assign student projects which require the use of the Internet, and 89% indicate that their students do not use Internet for distance learning.

Third, the survey found a lack of training available for faculty at this time. This lack of training was indicated by a response of "Do not know." For example, 30% didn't know if their school had a formal Technology Plan to incorporate Internet access, 23% didn't know how many computers in their school had access to the Internet, 74% didn't know if their school was connected to the Alabama Super Computer, 25% didn't know what kind of computers they had (PC or MAC), 54% didn't know what type of PC they had, and 78% could not describe the speed of their modems. Although 47% learned about the Internet by attending in-service program(s) at their school, it appears from the above data that there is a need for more training, and 78% indicate that they would by interested in using the Internet as part of their instructional process. (See Table 1.)

Conclusion

Sixty-two percent attributed the greatest barrier to Internet access to inadequate funding at the state level. Nineteen percent attributed it to a need for Internet instruction. The solution must, therefore, involve both financial and educational opportunities. Many of the public higher education institutions of Alabama are actively involved in the Technology Scholarship Program for Alabama Teachers (TSPAT). The State Department of Education encourages schools to send their faculty to participating universities to receive either a master's degree that includes a technology option or to take three technology courses if they have already completed the master's degree. Students receive a full scholarship while participating in the program. TSPAT has, therefore, provided the financial incentive for teachers to become familiar with current and emerging technologies.

While TSPAT has proved very beneficial to the schools, some faculty members have chosen not to participate for a variety of reasons. In order to reach the maximum number of teachers, it is necessary to provide additional opportunities. Schools need encouragement to ensure that all teachers become familiar with the Internet. Local media specialists need special training in the use of the Internet. They, in turn, could conduct faculty workshops at the local level. In addition, each school might choose to send representative faculty members to a local university or in-service center for training related specifically to the Internet. They, in turn, could stimulate discussions and demonstrations that involve the use of telecommunications in their own schools. If rural schools with the most to gain through global communications are to realize the advantages of the Internet, they must become active participants.

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Table 1

Internet Survey Results

You have been chosen to participate in a survey of Internet. The purpose of the study is to show the status of Internet in northeastern and east central Alabama rural schools. It is not necessary that you identify yourself in this survey. Please darken your response on the Scantron General Purpose Answer Sheet using the #2 pencil provided. Do not include your name or any other identifying information. Please limit your choice to one response per question.

1. Status:

    92% a. Faculty

    07% b. Media Specialist

    01% c. Other

2. Gender:

    25% a. Male

    75% b. Female

3. Ethnic Origin (voluntary)

    02% a. Afro-American

    01% b. American Indian

    96% c. Caucasian

    00% d. Hispanic

    01% e. Other

4. Age:

   21% a. 20-30

   33% b. 31-40

   36% c. 41- 50

   09% d. 51-60

   01% e. 61-70

5. Grade (s) taught

   20% a. 6

   26% b. 7

   19% c. 8

   07% d. Special education

   28% e. Combination of grades including media specialist

6. Subject taught

   19% a. Math

   21% b. Language arts

   20% c. Science

   15% d. Social studies

   25% e. Combination of subjects including media specialist

7. Approximate number of students taught or provided service to per day

   01% a. Fewer than 10

   01% b. 10-20

   05% c. 21-30

   05% d. 31-50

   88% e. More than 50

8. Does your school have a formal Technology Plan which incorporates Internet access?

   25% a. Yes

   45% b. No

   30% c. Do not know

9. Do you have access to a computer at school?

   91% a. Yes

   09% b. No

10. How many computers in your school have access to Internet?

   37% a. None

   37% b. Less than 5

   01% c. 6-10

   02% d. More than 10

   23% e. Do not know

If the response to the above question is "None," then skip to question 27.

11. What *best* describes the location of a computer available to you with Internet capability?

07% a. Administrative office (s)

67% b. Media Center

07% c. Classroom

10% d. Computer laboratory

09% e. None of the above

12. Is your school connected to the Alabama Super Computer?

02% a. Yes

24% b. No

74% c. Do not know

13. What is the frequency of your access to a computer at school which provides Internet?

43% a. Never

21% b. Seldom (less than 4 times per month)

07% c. Frequently (more than 4 times per month)

29% d. Daily

14. What best describes your computer hardware at school?

52% a. PC (IBM) clone

14% b. Macintosh

09% c. Other

25% d. Do not know

15. What best describes your PC (IBM) clone?

03% a. 286

05% b. 386

26% c. 486/Pentium

12% d. Do not have a PC

54% e. Do not know

16. What *best* describes your modem?

07% a. 2400 baud rate

04% b. 14.4 baud rate

11% c. 28.8 Baud rate

78% d. Do not know

17. What method *best* describes how you became acquainted with Internet?

36% a. Self-taught including instructions provided by on-line services, i.e., American On-Line

47% b. Attended in-service program(s) at my school

09% c. Attended in-service program(s) at a college or university

06% d. Course work at a college or university other than the Technology Scholarship Program for Alabama Teachers (TSPAT)

02% e. Course work in the TSPAT curriculum

18. Does your Internet access provide:

14% a. Text only

86% b. Text and graphics

19. Do you use gopher, WEB or other on-line search strategies in your classroom preparation?

66% a. Never

18% b. Seldom (less than 4 times per month)

14% c. Frequently (more than 4 times per month)

02% d. Daily

20. What percentage of your students have access to Internet at home?

20% a. None

54% b. 1-5%

07% c. 6-10%

02% d. 11-20%

17% e. No opinion

21. Do you teach your students how to use the Internet?

12% a. Yes

88% b. No

22. What best describes your students' use of the Internet at school?

45% a. Never

42% b. Seldom (less than 4 times per month)

07% c. Frequently (more than 4 times per month)

06% d. Daily

23. Do you assign students projects which require the use of the Internet?

74% a. Never

19% b. Seldom (less than 4 times per month)

07% c. Frequently (more than 4 times per month)

00% d. Daily

24. What best describes the student projects you assign?

00% a. E-mail

28% b. Collection of reference materials

04% c. Proficiency in using the Internet

04% d. Current events

64% e. Not applicable

25. Do your students use Internet for distance learning (receiving course work or course work enrichment from remote sites)?

11% a. Yes

89% b. No

26. Do you feel that the number of computers in your school is:

54% a. Poor

32% b. Fair

14% c. Good

00% d. Excellent

27. Would you be interested in using the Internet as a part of your instructional process if it were available to you?

78% a. Yes

04% b. No

14% c. Undecided

04% d. Not applicable

28. What do you consider to be the greatest barrier to Internet access at your school?

19% a. Need for Internet instruction

62% b. Inadequate funding at the state level

05% c. Lack of community support

14% d. No opinion

When you have completed the survey, seal the response sheet in the envelope provided and return it to your principal. Thank you for your participation in the survey.

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