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A Study of Teachers' Perceptions of Computer Usage and Staff Development Needs in Edwards County CUSD #1, Albion, Illinois

David R. Savage
Eastern Illinois University

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A Study of Teachers' Perceptions of Computer Usage

and Staff Development Needs in Edwards County CUSD #1,

Albion, Illinois

BY

David R. Savage

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I HEREBY RECOMMEND THIS FIELD EXPERIENCE BE ACCEPTED AS FULFILLING THIS PART OF THE GRADUATE DEGREE CITED ABOVE.

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Abstract

In recent years the integration of computer technology into the activities for students in public schools has become an important goal for educators throughout the nation. This study was designed to determine Edwards County Community Unit School District (CUSD) #1 teachers' perceptions regarding (a) use of computers at home and at school; (b) the extent that school personnel in buildings have established a technology plan; (c) availability of computer technology to students and themselves; and (d) the preferred time, method of training (e.g., workshops, one-on-one instruction, and college course), and incentives to attend computer staff development program.

The study took place during the spring of 1996. The study included a questionnaire that was given to the 67 teachers of Edwards County CUSD #1, which is comprised of Albion Grade School, West Salem Grade School, and Edwards County High School. The questionnaire was developed by the Technology Committee of Edwards County CUSD #1, of which the researcher was the chairperson.

Fifty-seven teachers (85%) responded to the questionnaire. The results indicated that while teachers agreed that computer technology could have a positive impact on student learning, most teachers did not use a computer at home or at school. Additionally, only 9% of the teachers indicated that there was a technology plan in place at their school. In general, the respondents indicated that there were no computers in their classrooms. The results of the questionnaire also indicated that teachers' preferences (84%) to attend staff development for computer usage was for inservice days. Computers for the teachers' classrooms was the preferred incentive (39%) to attend staff development for computer usage.

The findings led to four recommendations: (a) provide staff development workshops for effective utilization of computers, (b) make teachers aware of the current technology plan in their building, (c) make computers more readily available to teachers in

their classrooms, and (d) provide computer technology workshops on teacher inservice days.

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Chapter 1

Overview of the Problem

Background

There has been a growing interest in integrating computer technology into today's classrooms and the need for computer technology staff development. It is the researcher's opinion that quality computer technology integration into classrooms will not happen unless teachers know how to utilize the computers placed in their classrooms.

In the researcher's opinion, the results can be amazing when computer technology is used effectively in the classroom. A group of students, linked together through software and computers, share ideas instantaneously as they work on a collaborative writing project. Access to the Internet provides students engaged in research projects with a wealth of resources not accessible through traditional means. An example of this can be seen in foreign language classes that become more purposeful when students communicate, via electronic mail, with native speakers.

When computer technology is not incorporated into curriculum in thoughtful and meaningful ways, it becomes merely the latest gadget in the classroom and is often used haphazardly. According to Yeaman (1993), "Educational technologies succeed when they help instructors and students do better what they want and need to do" (p. 23). In the researcher's opinion, random approaches to using computer technology often cheat students of opportunities to practice using tools they may be expected to use when they l eave school.

Ongoing staff development, along with access to up-to-date computer technology, is crucial for teachers to effectively incorporate computer technology into classroom curriculum. Best practices should be shared among teachers so all children have access to technological tools and teachers who can guide them in using these tools. Based on the researcher's experiences, ongoing communication about the aims of computer technology in education is a key feature of schools that use technology to enhance academic programs

and to create educational experiences that have a profound impact on student learning and achievement.

Statement of the Problem

The problems addressed were to determine Edwards County Community Unit School District #1 (Edwards County CUSD #1) teachers' perceptions regarding (a) use of computers at home and at school; (b) the extent that school personnel in buildings have established a technology plan; (c) availability of computer technology to students and themselves; and (d) the preferred time, method of training (e.g., workshops, one-on-one instruction, and college courses), and incentives to attend computer technology staff development.

At their first meeting in January 1996 the members of the Technology Committee of Edwards County CUSD #1 agreed that the majority of teachers in the school district were not incorporating computer technology into their classrooms. The Technology Committee decided to survey the teaching staff to determine its level of computer usage and what would be needed to provide high quality computer technology staff development. The Technology Committee was also interested in the teachers' perceptions of computer availability to teachers and students, as well as the teachers' perceptions on technology planning that was taking place in their buildings. The survey used was developed from these two desires.

Research Questions

The specific questions addressed were:

1. What is the personal computer usage by teachers at home and at school?

2. What are the perceptions of teachers regarding technology planning in Edwards County CUSD #1?

3. What is the current availability of computers in each of the district's schools and classrooms?

4. What is the most desired method of staff development for computer technology in regard to time, approach, and incentives to attend?

Assumptions

The following assumptions were made of the teachers who responded to the questionnaire:

1. Answers were based on their experiences and not on current trends.

2. Familiarity existed regarding the need for technology planning.

3. Familiarity existed regarding the extent to which computers were available to teachers and students.

4. Familiarity existed with the current computer technology staff development practices in their school and the district.

Limitations

The following limitations existed:

1. The data could only be obtained from teachers in Edwards County CUSD #1. Therefore, caution needs to be exercised when generalizing the findings to personnel in other schools.

2. Reference to technology was limited to computers. At the time the questionnaire was sent, no personnel in the district were using interactive distance learning or other technology for instructional purposes except for computers and video cassette recorders/players.

Delimitations

The researcher chose only to study computer technology in Edwards County CUSD #1.

Definitions of Terms

Presented here are operational definitions germane to understanding this study:

Edwards County CUSD #1. The school district composed of Albion Grade School (AGS), pre-kindergarten, kindergarten-8th grade; West Salem Grade School (WSGS),

pre-kindergarten, kindergarten-8th grade; and Edwards County High School (ECHS), 9th-12th grade.

Technology Plan. A document that describes the mission, goals, and objectives regarding technology and specifies how the technology will be accomplished.

Uniqueness of the Study

A study of computer usage and needs had never been done in Edwards County CUSD #1. This study was done to provide the Edwards County CUSD #1 Technology Committee with information for making better computer technology decisions.

Chapter 2

Rationale, Related Literature and Research

Rationale

In the researcher's opinion, many people today are immersed in technology. Computerized technology exists in places such as the supermarket, gas station, and doctor's office.

It is the opinion of the researcher that computer technology can be effectively utilized by schools for the betterment of students if certain steps are taken. First, teachers must have access to current computer technology and utilize it. Next, staff development must be provided to enhance proper use of the computer technology. Finally, ongoing technology planning must take place to make sure accessibility of technology and staff development for technology are occurring as needed.

Review of Literature and Research

Several factors have worked to produce the expectation, and in some instances the requirement, that today's public school teacher possess the ability to utilize computer technology. These factors include (a) the need to provide relevant and authentic instruction that reflects contemporary and future social and economic demands on students (Thornburg, 1992, pp. 3-4); (b) the compatibility of certain computer-based technologies with newer, research-based approaches to teaching and learning (Campoy, 1992, pp.17-19); (c) student and parent expectations (Topp, Mortensen, & Grandgenett, 1995, p. 12); and (d) guidelines and mandates for federal, state, district, and professional bodies (Widmer and Amburgey, 1994, p. 14).

The Office of Technology Assessment (1995, p. 9) estimated that the number of computers in kindergarten-12th grade increased by 300,000 to 400,000 a year during the past decade. The total number of computers in schools was estimated to reach 5.8 million during 1995, which is a ratio of one computer for every nine students. Despite this growth, a number of investigations into computer use in K-12 classrooms have concluded

that computer-based technologies are not being fully utilized by the majority of teachers. Current literature suggests that (a) relatively few teachers routinely use computer-based technologies for instructional purposes (Hunt and Bohlin, 1995, p. 22); (b) when computers are used, they are generally used for low-level tasks such as drills and word processing (Office of Technology Assessment, 1995, p. 11); and (c) computers are not sufficiently integrated across the K-12 curriculum (Office of Technology Assessment, 1995, p. 11).

The most common reasons given for the low level of computer use in schools are limited access to equipment and lack of training (Bosch and Cardinale, 1993, p. 25). A number of studies and reports reveal that both new and veteran teachers feel inadequately trained to use computers in their classrooms (Topp et al., 1995, p. 13). In a survey of recent graduates, the Office of Technology Assessment (1995, p. 15) found that more than half reported being prepared to utilize drill and practice, tutorials, games, word processing, and publishing applications. Less than 10% felt competent to use multimedia and presentation packages, electronic network collaboration capabilities, or problem solving applications.

One way for school districts to avoid this lack of training and underutilization of the computer technology that is available is to provide quality technology planning at the district level. Many districts have completed or are currently working on technology plans due to the added incentive provided by Goals 2000 legislation (Congress of the United States, 1993).

According to Anderson (1996, pp.16-19) there are eight key principles of planning that technology committees should keep in mind as they try to implement a technology plan in their school district. Those principles are:

1. Gain administrative approval. Before any technology plan can be written it must have the support of all pertinent administrators. The committee should let the

administrators know that they will not have to understand all the details about the technologies discussed, but their support is a must to ensure long-term success of the plan.

2. Form a district committee. A technology committee made up of all the technology stakeholders is preferred. This means the committee should consist of teachers, administrators, parents, students, community members, business representatives, and anyone else that has a stake in the operation of the school district. This committee should set timelines to guide its activities. The committee should also review technology plans already established to gain insights and ideas for the plan it wishes to establish.

3. Consider consultants. Hiring someone who has successfully been through what the committee will be experiencing may save money and time. Committee members should check the record and experiences of the consultant before hiring the consultant.

4. Conduct a needs assessment and inventory. The technology committee will have a more accurate understanding of the perceptions of teachers, administrators, media specialists, secretaries, support staff, parents, and students through the needs assessment. This is important because these are the people who will be key players in determining if the technology plan is successfully implemented.

An inventory of the district's technology equipment should not be limited exclusively to computers. The inventory should include televisions, video equipment, laserdiscs, calculators, printers, and scanners. Only useable equipment should be counted.

5. Review and analyze data. When surveys or questionnaires are used to gather the perceptions of the school district's technology stakeholders, the data should be tabulated and reviewed. This information, along with a technology inventory, provides a complete picture of the technological readiness of the school district.

6. Prepare the document. The two most important components of the technology plan are the vision statement and the mission statement. The vision statement will tell the district's desires for the future. The mission statement will describe what the technology plan is expected to accomplish. After these two components are set, the rest of the plan

should include (a) an executive summary which reveals the main thrust of the technology plan; (b) critical issues, the budget, and timelines; (c) finances to the point that a section of the district total budget is set aside exclusively for technology; and (d) appendices that would include samples of surveys the technology committee has used, minutes of committee meetings, and equipment inventories.

7. Implement the plan. This is the heart of the technology plan because this is what district teachers will use as they strive to apply what is planned to the learning activities of their students. Someone on the committee needs to be assigned to keep a record of what occurs during the implementation of the technology plan.

8. Evaluate the technology plan. Once the technology plan is in place and is being implemented, the technology committee should seek input from the stakeholders to use as the plan is reviewed for adjustments and revisions for the future. Evaluation of the technology plan needs to be a continuous activity.

Chapter 3

Design of the Study

General Design

This was a field study of the teachers' perceptions of computer usage and staff development needs in Edwards County CUSD #1. The dependent variable of this study was the perceptions of the respondents as measured by the questionnaire in the Appendix. The questionnaire was developed by the researcher as part of the Edwards County CUSD #1 Technology Committee. It was sent to all teachers in the district. The Edwards County CUSD #1 is comprised of Albion Grade School (grades pre-kindergarten, kindergarten-8), West Salem Grade School (grades pre-kindergarten, kindergarten-8), and Edwards County High School (grades 9-12). The independent variable was the type of respondent as defined by the building in which the respondent worked. The independent variable was not manipulated. The validity of the questionnaire was addressed by determining that each part of the questionnaire had appropriate content to answer the research question with which it was aligned. While no statistical analysis was done for reliability, the questionnaire was field tested by members of the Edwards County CUSD #1 Technology Committee. An effort was made to assure that the directions on the questionnaire were clear and the items not ambiguous.

The study was designed to provide data to answer the following questions:

1. What is the personal computer usage by teachers at home and at school?

2. What is the perception of teachers regarding technology planning in Edwards County CUSD #1?

3. What is the current availability of computers in each of the district's schools and classrooms?

4. What is the most desired method of staff development for computer technology in regard to time, approach, and incentive to attend?

Sample and Population

The sample was the 57 teachers who completed the questionnaire out of a population of 67 teachers in the district. A random sample was not used. Rather, all teachers were asked to participate. The researcher does not know why 10 out of the 67 teachers chose not to respond. Thus, although there was a high response rate, the representativeness of the sample is not certain.

Data Collection and Instrumentation

The cover letter and Technology Staff Development Questionnaire (see Appendix) were sent to the 67 teachers in the Edwards County CUSD #1 schools. Fifty-seven (85%) of the questionnaires were returned. The questionnaire was sent to the teachers through the district's inner-office mail in April 1996. Upon completion, teachers were instructed to return the completed questionnaires to their building principals. Reminders were sent to teachers in each building to turn in their completed questionnaires. The researcher collected the questionnaires from each building principal.

Data Analysis

The results were tabulated manually by the researcher. The gathered data were displayed and organized into frequencies and percentages, and arranged into tables that were accompanied by narratives.

Questionnaire items that were used to answer the four research questions were:

1. Research question 1 was answered by items 1 through 4 of Part II and items 2 and 3 of Part IV of the questionnaire.

2. Research question 2 was answered by items 1 and 2 of Part III of the questionnaire.

3. Research question 3 was answered by items 1, 5, and 6 of Part IV of the questionnaire.

4. Research question 4 was answered by items 3 through 5 of Part V of the questionnaire.

Chapter 4

Results of the Study

Overview

The analyzed data for each research question are presented in tables. In each of the tables AGS indicates responses from the Albion Grade School teachers, WSGS indicates responses from the West Salem Grade School teachers, and ECHS indicates responses from the Edwards County High School teachers. The letter n represents the number of responses and the symbol % represents the percentage of those responses.

Results for Research Question 1

Research question 1 was: What is the personal computer usage by Edwards County CUSD #1 teachers at home and at school?

Table 1 reveals that for the Total District, 49% of the Edwards County CUSD #1 teachers never used a computer at school, and 25% used a computer at school one hour or less per week. Combining responses from the last four categories in the column labeled School Usage in Table 1 indicates that only 26% of the Total District responses indicated computer usage at school of two hours or more per week for teachers. At both AGS and WSGS, about two-thirds of the teaching staff responded that they never used a computer at school.

Table 2 had similar findings as Table 1 in that for Total District, 47% of teachers indicated that they never used computers at home either. Combining responses from the first two categories in the column labeled Home Usage in Table 2 reveals that 72% of the Total District responses indicated that computer usage at home was either one hour or less per week. At AGS 48% of the teaching staff responded that they never used a computer at home. Regarding never using a computer at home, the results for WSGS and ECHS were 58% and 40% respectively.

Table 3 shows teachers' responses as to what types of computer functions they used at home. The result for Total District indicates that 46% of the teachers have not

Table 1

Hours Teachers Use Computers at School Per Week

	AGS		WSGS		ECHS		Total District	
School Usage	n	%	n	%	n	%	n	%
Computer never used	16	64%	8	67%	4	20%	28	49%
1 hour or less	7	28%	1	8%	6	30%	14	25%
2 - 5 hours	1	4%	1	8%	9	45%	11	19%
6 - 10 hours	1	4%	1	8%	1	5%	3	5%
11 - 20 hours	0	0%	0	0%	0	0%	0	0%
More than 20 hours	0	0%	1	8%	0	0%	1	2%
Total	25	100%	12	99%	20	100%	57	100%

Note. The Total figure of 99% for WSGS was due to rounding of percentages.

used a computer at home. Almost half of the teachers at each of the grade schools (AGS 48% and WSGS 50%) indicated they did not use a computer at home, and 40% of the ECHS teachers indicated they did not use a computer at home. Table 3 also shows that for those teachers who did have computers in their homes, word processing was the most (40% Total District) used home computer function.

Table 4 reveals that for the Total District, the majority of teachers (54%) did not use computers at school. This percentage (54%) is due in large part to the fact that 76% of AGS teachers and 67% of WSGS teachers reported that they did not use computers at school. This is in sharp contrast to the 20% of ECHS teachers that responded they did not use computers at school. Eighty percent of the high school staff indicated that they used word processing computer functions, while usage by the AGS staff (16%) and the WSGS staff (33%) was considerably lower.

Table 2

Hours Teachers Use Computers at Home Per Week

	AGS		WSGS		ECHS		Total District	
Home Usage	n	%	n	%	n	%	n	%
Computer never used	12	48%	7	58%	8	40%	27	47%
1 hour or less	7	28%	4	33%	3	15%	14	25%
2 - 5 hours	3	12%	1	9%	8	40%	12	21%
6 - 10 hours	0	0%	0	0%	1	5%	1	2%
11 - 20 hours	2	8%	0	0%	0	0%	2	4%
More than 20 hours	1	4%	0	0%	0	0%	1	2%
Total	25	100%	12	100%	20	100%	57	101%

Note. The Total figure for Total District of 101% was due to rounding of percentages.

Table 3

Type of Computer Functions Teachers Use at Home

	AGS		WSGS		ECHS		Total District	
Home Computers	n	%	n	%	n	%	n	%
Word processing	6	24%	6	50%	11	55%	23	40%
Spreadsheet	4	16%	1	8%	4	20%	9	16%
Database	3	12%	1	8%	4	20%	8	14%
Desktop publishing	3	12%	0	0%	2	10%	5	9%
Gradebook	1	4%	0	0%	1	5%	2	4%
Computer not used	12	48%	6	50%	8	40%	26	46%

Table 4

Type of Computer Functions Teachers Use at School

	AGS		WSGS		ECHS		Total District	
Computer Functions	n	%	n	%	n	%	n	%
Word Processing	4	16%	4	33%	16	80%	24	42%
Spreadsheet	2	8%	0	0%	1	5%	3	5%
Database	3	12%	1	8%	2	10%	6	11%
Desktop publishing	3	12%	1	8%	0	0%	4	7%
Gradebook	1	4%	0	0%	0	0%	1	2%
Computer not used	19	76%	8	67%	4	20%	31	54%

Table 5 shows the types (Apple II, Macintosh, IBM/Compatible) of computers Edwards County CUSD #1 teachers used at school. There was a predominance of Apple II computers used at the grade school level (AGS 70% and WSGS 100%). Seventy-nine percent of the ECHS staff used IBM or IBM compatible computers, and 16 % of the ECHS staff indicated they used Apple II computers. Only 7% (Total District) of the teachers indicated that they used Macintosh computers at school.

When the first three categories in Table 6 are combined for Total District, results indicate that 56% of teachers used computers at home as opposed to those who did not use computers at home (44%). An IBM, or an IBM compatible, computer is the type most used in Edwards County CUSD #1 teachers' homes as indicated by the result of 47% for Total District.

Results for Research Question 2

Research question 2 was: What is the perception of teachers regarding technology planning in Edwards County CUSD #1?

Table 5

Type of Computers Teachers Use at School

	AGS		WSGS		ECHS		Total District	
School Computer Type	n	%	n	%	n	%	n	%
Apple II	12	70%	6	100%	3	16%	21	50%
Macintosh	2	12%	0	0%	1	5%	3	7%
IBM/Compatible	3	18%	0	0%	15	79%	18	43%
Total	17	100%	6	100%	19	100%	42	100%

Table 6

Type of Computer Teachers Use at Home

	AGS		WSGS		ECHS		Total District	
Home Computer Type	n	%	n	%	n	%	n	%
Apple II	0	0%	0	0%	1	5%	1	2%
Macintosh	1	4%	0	0%	3	15%	4	7%
IBM/Compatible	13	52%	5	42%	9	45%	27	47%
Computer not used	11	44%	7	58%	7	35%	25	44%
Total	25	100%	12	100%	20	100%	57	100%

Responses in the Total District column in Table 7 show that only 9% of the teachers in the Edwards County CUSD #1 reported that a technology plan was in place in their schools. The results varied minimally by building (AGS 12%, WSGS 8%, and ECHS 5%).

Table 7

Technology Plan in the School

	AGS		WSGS		ECHS		Total District	
Technology Plan	n	%	n	%	n	%	n	%
Yes	3	12%	1	8%	1	5%	5	9%
No	5	20%	6	50%	3	15%	14	24%
Not sure	17	68%	5	42%	16	80%	38	67%
Total	25	100%	12	100%	20	100%	57	100%

Table 8 shows the results regarding the presence of someone coordinating technology efforts in each of the schools. Forty-two percent (Total District) of the Edwards County CUSD #1 teachers indicated that there was someone coordinating technology in their school. Results for AGS (32%) and ECHS (25%) were similar, with the results for WSGS (92%) much higher.

Results for Research Question 3

Research question 3 was: What is the current availability of computers in each of the district's schools and classrooms?

Results for Table 9 show that 65% of the responses for Total District indicate that the location of the nearest computer within the building was the computer lab. Twenty-eight percent of the responses for the Total District indicate that teachers reported having a computer in their classroom (AGS 36%, WSGS 17%, and ECHS 25%).

Table 10 shows the results regarding the average number of computers in classrooms in each school. Fifty-eight percent of the responses for the Total District indicated that the average number of computers in classrooms was zero. One hundred percent of WSGS teachers indicated that the average number of computers in classrooms

Table 8

Technology Efforts Coordinated in School

	AGS		WSGS		ECHS		Total District	
Coordination	n	%	n	%	n	%	n	%
Yes	8	32%	11	92%	5	25%	24	42%
No	2	8%	0	0%	0	0%	2	4%
Not sure	15	60%	1	8%	15	75%	31	54%
Total	25	100%	12	100%	20	100%	57	100%

Table 9

Location of Nearest Computer to Teachers

	AGS		WSGS		ECHS		Total District	
Computer Location	n	%	n	%	n	%	n	%
Classroom	9	36%	2	17%	5	25%	16	28%
Computer lab	12	48%	10	83%	15	75%	37	65%
Media center	1	4%	0	0%	0	0%	1	2%
Computer cart	3	12%	0	0%	0	0%	3	5%
Total	25	100%	12	100%	20	100%	57	100%

at their school was zero. Seventy percent of ECHS teachers also indicated that the average number of computers in classrooms for their school was zero. Twenty-eight percent of AGS teachers that indicated the average number of computers in classrooms in their school was zero.

Table 10

Average Number of Computers in Classrooms

	AGS		WSGS		ECHS		Total District	
Computers in Classrooms	n	%	n	%	n	%	n	%
Zero	7	28%	12	100%	14	70%	33	58%
One	18	72%	0	0%	6	30%	24	42%
Two - three	0	0%	0	0%	0	0%	0	0%
Four - five	0	0%	0	0%	0	0%	0	0%
Total	25	100%	12	100%	20	100%	57	100%

Results in Table 11 show that 70% of the teachers' responses for the Total District indicated there was a networked computer lab in their building available to them. Results varied minimally by building (AGS 68%, WSGS 67%, and ECHS 75%). Twenty-five

Table 11

Networked Computer Lab Accessible to Teachers

	AGS		WSGS		ECHS		Total District	
Networked Lab	n	%	n	%	n	%	n	%
Yes	17	68%	8	67%	15	75%	40	70%
No	1	4%	1	8%	1	5%	3	5%
Not sure	7	28%	3	25%	4	20%	14	25%
Total	25	100%	12	100%	20	100%	57	100%

percent (Total District) indicated that they were not sure if a networked lab was available to them, and only 5% (Total District) indicated there was not a networked computer lab for their use.

Results for Research Question 4

Research question 4 was: What is the most desired method of staff development for computer technology in regard to time, approach, and incentives to attend?

Table 12 results reveal that 84% of responses for Total District indicate that teachers preferred to attend staff development for computer technology on inservice days, with 100% of the WSGS teachers indicating so. Computer staff development immediately after work was chosen by only 9% of the teachers in the district (Total District). Table 12 shows that only 2% of the responses for the Total District indicate that teachers did not want to attend staff development for computer technology.

Table 12

Preferred Time for Staff Development for Technology

	AGS		WSGS		ECHS		Total District	
Preferred Time	n	%	n	%	n	%	n	%
Evenings	1	4%	0	0%	2	10%	3	5%
Inservice days	20	80%	12	100%	16	80%	48	84%
After work	4	16%	0	0%	1	5%	5	9%
Training not wanted	0	0%	0	0%	1	5%	1	2%
Total	25	100%	12	100%	20	100%	57	100%

As shown in Table 13, 58% of the Total District teachers preferred workshops with follow-up sessions as the best approach to staff development for computer technology. Thirty-two percent preferred one-on-one training sessions as their choice for

Table 13

Preferred Approach to Staff Development for Technology

	AGS		WSGS		ECHS		Total District	
Preferred Approach	n	%	n	%	n	%	n	%
Workshops wit follow-up sessions	16	64%	4	33%	13	65%	33	58%
Self-instruction	3	12%	0	0%	1	5%	4	7%
One-on-one training	5	20%	8	67%	5	25%	18	32%
College course	1	4%	0	0%	0	0%	1	2%
Training not wanted	0	0%	0	0%	1	5%	1	2%
Total	25	100%	12	100%	20	100%	57	100%

staff development for computer technology.

Table 14 results indicate that 39% of Total District teachers would like a computer for their classroom as an incentive to attend staff development for computer technology. Thirty-seven percent requested stipends to attend staff development for computer technology, with 75% of the WSGS teachers and 35% of the ECHS teachers showing their preference for this option. Only 20% of the AGS teachers indicated that they preferred stipends, and 52% responded that they preferred a computer for their classroom. As seen in Table 9, 36% of AGS teachers indicated that they had computers in their classrooms while only 17% of the WSGS teachers and 25% of the ECHS teachers had computers in their classroom. This would cause the researcher to believe that if the WSGS and ECHS teachers could see computers in more of their classrooms, they would also prefer computers for their classrooms as the preferred incentive to attend staff development for technology. Only one teacher responded that he/she did not want staff

Table 14

Incentives to Attend Staff Development for Technology

	AGS		WSGS		ECHS		Total District	
Preferred Incentive	n	%	n	%	n	%	n	%
Stipends	5	20%	9	75%	7	35%	21	37%
Computer for class	13	52%	2	17%	7	35%	22	39%
College Credit	1	4%	0	0%	2	10%	3	5%
Increased knowledge	1	4%	1	8%	3	15%	5	9%
Software for class	5	20%	0	0%	0	0%	5	9%
Training not wanted	0	0%	0	0%	1	5%	1	2%
Total	25	100%	12	100%	20	100%	57	100%

development training for computer technology when incentives such as computers for the classrooms and cash stipends were offered.

Chapter 5

Summary, Conclusions, and Recommendations

Summary

The purpose of this study was to determine teachers' perceptions of computer technology usage and the staff development needs in Edwards County CUSD #1. It was the researcher's belief that ascertaining these perceptions was important to developing quality computer technology staff development for the teaching staff of Edwards County CUSD #1.

The research questions addressed were:

1. What is the personal computer usage by teachers at home and at school?

2. What is the perception of teachers regarding technology planning in Edwards County CUSD #1?

3. What is the current availability of computers in each of the district's schools and classrooms?

4. What is the most desired method of staff development for computer technology in regard to time, approach, and incentive to attend?

This study was based on a review of literature and research about computer availability, the need for computer staff development, and the need for technology planning. A questionnaire was developed based on the literature, research, and concerns of the district's Technology Committee members. The questionnaire was given to all teachers in the district. The gathered data were organized into frequencies and percentages, and arranged into tables that were accompanied by narratives.

Results for research question 1 indicated that almost half of Edwards County CUSD #1 teachers reported that they did not use a computer at school (49% Total District) or at home (47% Total District). Based on the data in Table 1, another 25% reported that they used a computer at school one hour or less per week. Additionally, when teachers were asked what type of computer functions they used at home and at

school, the teachers indicated that they did not use computers at home (46% Total District) or at school (54% Total District). When teachers were asked what type (Apple II, Macintosh, IBM/Compatible) of computer they used at school, results indicated that teachers at AGS (48%) and WSGS (50%) used Apple II computers. Seventy-nine percent of teachers at ECHS used IBM/Compatible computers.

Results for research question 2 revealed that only 9% of teachers indicated there was a technology plan in place in their schools. There were minimal differences in the results by building (AGS 12%, WSGS 8%, and ECHS 5%) regarding the number of teachers who indicated there was a technology plan in place in their building.

Less than half (42% Total District) of the Edwards County CUSD #1 teachers reported that there was someone to coordinate technology efforts in their school. Ninety-two percent of WSGS teachers indicated there was someone coordinating technology efforts in their school.

Results for research question 3 showed that most teachers (65% Total District) indicated that the school computer lab housed the nearest computer available for their use. Twenty-eight percent of the teachers throughout the district reported that they had a computer in their classroom.

When asked about the average number of computers in the classrooms in their school, the majority of teachers (58% Total District) reported that the average was zero. One hundred percent of the teachers at WSGS indicated there were no computers in any of the classrooms outside of the computer lab. AGS (28%) and ECHS (70%) staff indicated that the average number of computers in classrooms in their schools was also zero.

As indicated in Table 11, 70% (Total District) of Edwards County CUSD #1 teachers reported that they had a networked computer lab accessible to them in their school. Another 25% (Total District) felt that they were not sure if the networked

computer lab was accessible to them, and only 5% of the district teachers did not feel that the computer lab was accessible to them.

Results for research question 4 indicated most teachers (84% Total District) preferred to use inservice days for computer technology staff development. Fifty-eight percent of the Total District teachers preferred workshops with follow-up sessions as the best approach to staff development for computer technology. Based on the data in Table 14, 39% of the district's teachers preferred to receive a computer for their classroom as the incentive to attend staff development for computer technology. Cash stipends were the second most popular incentive to attend staff development for computer technology with a response rate of 37% (Total District).

Conclusions

The researcher concluded that Edwards County CUSD #1 Technology Committee needs to examine the level of their teachers' computer usage, and the availability of computers to them, when making technology decisions in the future. Although 42% of the teachers in the district indicated that they used computer technology in some capacity, 54% reported that they did not use computers at school. The results for teachers' computer usage in their homes were similar to the teachers' computer usage at school, with 46% reporting that they did not use a computer at home. These results, combined with the fact that 44% of the respondents indicated they did not use a computer when asked what type of computer they used in their home, led the researcher to conclude that many teachers lack accessibility to computers at home and at school. This results in limiting teacher confidence in computer usage.

The researcher concluded that Edwards County CUSD #1 administrators need to better communicate the existence of their technology plan with the teachers in the district. This can be seen in Table 7 where only 9% of teachers indicated that there was a technology plan in place in their school. The researcher noticed there was also uncertainty as to whether there was a person coordinating technology efforts in the schools. Only

42% (Total District) of Edwards County CUSD #1 teachers responded that there was someone coordinating technology efforts in their school. However, 92% of the WSGS teachers indicated there was a person coordinating technology efforts in their building. This led the researcher to conclude that someone at WSGS must have begun sharing personal technology information with other teachers in the building and may not actually be a district designated technology coordinator.

Sixty-five percent of Edwards County CUSD #1 teachers reported that the nearest computer available to them was in the computer lab. Over half (58%) of the district's teachers indicated the district average was zero regarding the number of computers in the classrooms in each school. From these results the researcher concluded that teachers are limited in direct access to computer technology which might slow the advancement of future technological growth in the district.

Eighty-four percent of the teachers in Edwards County CUSD #1 reported that inservice days would be the preferred time for staff development for computer technology. Workshops with follow-up sessions were preferred by 58% of the district's teachers as the best approach to staff development for computer technology. Computers for the classrooms (39%) and cash stipends (37%) were about equal as the most preferred incentive to attend staff development for computer technology. The researcher noted that AGS had a higher percentage of teachers wanting computers for their classrooms (52%) as compared to WSGS (17%) and ECHS (35%). When combined with the result that AGS teachers had a higher percentage of computers in their classrooms as compared to WSGS and ECHS teachers, the researcher concluded that more teachers at WSGS and ECHS might prefer computers for their classrooms if they could observe, first-hand, the advantages of having a computer in their classroom.

Recommendations

If Edwards County CUSD #1 desires to have its teachers implement computer technology successfully into daily classroom instruction, teachers must have an increased

amount of time spent utilizing computer technology. One way to meet this goal is for the district to offer an interest-free loan program to help teachers purchase computers for their personal use. This might help increase the amount of time per week teachers use computers at home.

The researcher recommended that the district provide more computers for the classrooms. If one computer per classroom could not be purchased at this time, the researcher recommended that the district begin by purchasing as many computers as the district can afford. These computers should then be placed in classrooms in one of the following ways: (a) give them to teachers in the highest grade level (e.g., 12th grade, then 11th grade, etc.), (b) place computers in the classrooms of teachers who have computer skills, or (c) give one computer on a cart to each grade level where teachers could share it until more computers can be purchased.

The researcher recommended that the district more effectively communicate its technology plan and identify the person designated to coordinate technology efforts in each school. This could be accomplished through ongoing updates at staff and town meetings where teachers, parents, and community members could learn more about technology efforts in each school. By better communicating the technology efforts of Edwards County CUSD #1, more stakeholders may get involved and excited about increasing technology in the district's schools.

The most important component for Edwards County CUSD #1 to successfully implement technology into daily instruction is for the district to provide ongoing staff development for computer technology. This is of equal value to purchasing computers because the technology is of little use if teachers do not know how to use the computers in their classrooms. The researcher recommended the district design staff development for computer technology delivered through workshops delivered on designated inservice days. One student early-release day a month could be set aside for the purpose of inservice for Edwards County CUSD #1 teachers with time to learn how to incorporate technology into

their daily instruction. If student early-release days were not an option, the researcher recommends that teachers be offered a computer for their classroom for attending a set number of computer workshops beyond the school day.

A follow-up study of the condition of computer technology integration and staff development for Edwards County CUSD #1 schools should be conducted in three years to see if the district has provided the staff development and equipment accessibility needed to increase computer technology usage in the district's schools.

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Appendix

David Savage
205 Oak Street
Albion, Illinois 62806

April 15, 1996

Dear Fellow Educator:

My name is David Savage, and I am working on my educational specialist degree at Eastern Illinois University. I am asking you to participate in my study by completing the enclosed questionnaire.

The purpose of my field study is to examine and assess the current status of staff development regarding technology in the Edwards County Community Unit School District #1. The following questionnaire will help me determine the status of that relationship.

Please take a few minutes to:

1. Read and respond to the items on the questionnaire.

2. Return the questionnaire to your building principal no later than April 29, 1996.

Your responses will be held in strict confidence. All results will be reported in the aggregate.

I appreciate your participation in this field study. Thank you for your help.

Sincerely,

David Savage

PART I - DEMOGRAPHIC

1. What grade level do you teach? ___ Pre-K - 5 ___ Jr. High ___ High School

2. Years of experience in education: __ 1-5 __ 6-10 __ 11-15 __ 16-20 __over 20

3. Age: __ 21-25 __ 26-30 __ 31-40 __ 41-50 __ 51-60 __ over 60

4. What is the highest degree you have completed: __ Bachelor's Degree __ Specialist __ Master's Degree __ Other

5. Your status as a computer user: __ Non-user __ Beginner __ Intermediate User __ Advanced User

PART II - PERSONAL COMPUTER USAGE AT SCHOOL AND HOME

1. How many hours per week do you personally use a computer at school?
__ Never __ 1 hr. or less __ 2-5 hrs. __ 6-10 hrs. __ 11-20 hrs. __ More than 20 hrs.

2. How many hours per week do you personally use a computer at home?
__ Never __ 1 hr. or less __ 2-5 hrs. __ 6-10 hrs. __ 11-20 hrs. __ More than 20 hrs.

3. Which type of computer functions do you use at home? __ Word Processing __ Spreadsheet __ Data Base __ Desktop Publishing __ Grade Book __ I don't use computers

4. Which type of computer functions do you use at school? __ Word Processing __ Spreadsheet __ Data Base __ Desktop Publishing __ Grade Book __ I don't use computers

5 . Is the computer you use at home compatible with the one use at school? __ Yes __ No
If your response is "No", please check the appropriate reason.

__ I do not use a computer at school __ I do not use a computer at home

6. Do you feel that computers can have a positive impact on student learning/achievement? __ Yes __ No __ Not Sure

7. What is the average number of hours each week that students in your class use computers other than with computer lab teacher? __ Never __ 1 hr or less __ 2-5 hrs per week __ 6-10 hrs per week __ 11-20 hrs per week __More than 20 hrs per week

8. What types of computer functions do your students use? (Check all that apply)
__Word Processing __ Spreadsheet __ Data Base __ Drill/Practice __ Tutorial __ Graphics

9. Do yours work in a computer lab? __ My students do not work in the lab __ Less than 1 hr a week __ 2-5 hrs per week __ 6-10 hrs per week __ 11-20 hrs per week

PART III - TECHNOLOGY PLANNING

1. Does your school have a written technology plan? __ Yes __ No __ Not Sure

2. Is someone in your school coordinating technology efforts? __ Yes __ No __ Not Sure

3. Are you interested in visiting exemplary technology programs? __ Yes __ No

4. Are you interested in receiving training in the use of technology? __ Yes __ No

PART IV - AVAILABILITY OF COMPUTER EQUIPMENT

1. What is the location of the nearest computer accessible to you at school? __ My classroom __ Computer Lab __ Media Center __ Computer on cart

2. Which type of computers do you use regularly at school? (Check all that apply) __ Apple II __ Macintosh __ IBM/IBM Compatible __ I do not use a computer at school

3. Which type of computers do you use regularly at home? (Check all that apply) __ Apple II __ Macintosh __ IBM/IBM Compatible __ I do not use a computer at home

4. What is the location of the nearest computer accessible to your students? __ Classroom __ Computer Lab __ Media Center __ Computer on cart

5. What is the average number of computers in the classrooms in your school? __ 0 __ 1 __ 2 __ 3 __ 4 __ 5 or more

6. Is there a networked computer lab in your school that is accessible to staff and students? __ Yes __ No __ Not Sure

7. What type of computers do the students in your school use regularly? (Check all that apply) __ Apple II __ Macintosh __ IBM/IBM Compatible __ Do Not Use Computers

PART V - INTEREST IN TECHNOLOGY STAFF DEVELOPMENT

1. Do computers have a positive impact on the way you work? __ Yes __ No __ Not Sure
2. How often should students work on a computer? __ Less than 1 hr a week __ 2-5 hrs per week __ 6-10 hrs per week __ 11-20 hrs per week __ More than 20 hrs per week __ Never

3. Which would be your most preferred approach to receive training? __ Workshops with follow-up __ Self-instructional materials __ One on one with someone in my school __ College course __ Training not desired

4. What is the best time for staff development training to be scheduled? __ Weekday evenings __ Saturday mornings __ Saturday afternoons __ Inservice day __ Immediately after school __ Training not desired

5. Which of the following would be the preferred incentive to attend technology staff development activities? (Check only one) __ Stipends/Extra pay __ Computer for classroom __ College credit __ Expansion of the participant's knowledge and skills __ Software to use at school __ Training not desired