# Distance Education in Georgia's Public School Districts: Baseline Data on Utilization and the Perceived Barriers to Implementation and Expansion

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**Abstract**

Interest in distance education, particularly online education, is increasing in public school districts throughout the United States. In an effort to aid those who are involved in the planning and administration of K-12 distance education programs in Georgia, the authors sought to gather and report baseline data on the current utilization of distance education courses in Georgia's K-12 public school districts, and to determine the perceived barriers to the implementation and expansion of distance education programs in Georgia. The authors' findings indicated that K-12 distance education enrollments in Georgia have increased over the past five school years, and asynchronous Internet-based courses are the primary course delivery model that exists. In addition, the authors found that costs and/or funding issues were the most frequently chosen barriers to the implementation and expansion of distance education courses.

Statement of the Problem and Significance of the Study

Although distance education courses have been available to high school students in Georgia for several years, the authors ascertained that there was very little statewide baseline data on the current utilization of distance education courses. In addition, there was no statewide information regarding the perceived barriers to implementation and expansion of distance education programs in Georgia's K-12 public school districts. The authors believed that all stakeholders involved with the Georgia Virtual School program would benefit from knowing how distance education courses are currently being utilized in Georgia's K-12 public school districts, and the barriers that exist to the implementation and expansion of distance education programs.

Background Information

In recent years, the use of distance education courses in public school districts has become more

prevalent, and the Internet is the primary technology by which these courses are now being developed and delivered. Virtual schools have been created in many states and individual school districts. In the state of Georgia, the Georgia Virtual School (http://www.gavirtualschool.org) was established in May of 2005. The main purpose of the Georgia Virtual School is to offer courses to high school students that are not normally available in their regular schools. These courses include, but are not limited to, Advanced Placement (AP), upper level college preparatory, and an SAT preparatory course.

For the purposes of this study, the authors sought to gather baseline data on the current utilization of distance education courses and to determine the perceived barriers to implementation and expansion of distance education programs in Georgia's public school districts. The authors used the Setzer, Lewis, and Greene (2005) study as their model. The authors believed that the study would aid the Georgia Department of Education and other states with a similar mix of urban and rural populations, in the administration and future planning of a Georgia Virtual School program, so that the online distance education needs of public school students could be met in the most expeditious manner. The authors also believed this study would assist individual school districts in their justification for expansion of their own distance education programs, for those who wished to do so. In addition, the authors believed the study would aid institutions of higher education, particularly teacher preparation and educational administration programs.

## Distance Education in Georgia's Public Schools

Technology currently used to deliver distance education courses in Georgia's school districts includes two-way interactive video, otherwise known as videoconferencing, and the Internet. Videoconferencing provides for synchronous instruction, while the Internet provides for online learning which can be both synchronous and asynchronous. Georgia's K-12 public school districts are now relying less on videoconferencing and more on the Internet for the delivery of distance education courses.

The Georgia State Department of Education implemented the Georgia eLearning program in 2002 (Jacobson, 2002). The Georgia eLearning program was state-funded. In addition to state-funded virtual school initiatives, individual school districts in Georgia have developed their own virtual schools, leading to the formation of the Georgia K-12 eLearning Consortium in 2004 (http://www.forsythcountyschools.org/instruct/curriculum/sites/gaelearning). The Consortium was created for the purposes of promoting online learning in Georgia's K-12 public school districts and sharing resources and provided the vehicle by which districts loosely connected in an effort to respond to new demands created by the infusion or multiple online learning activities for students. Subsequently, the Georgia legislature created the Georgia Virtual School through the passage of Senate Bill 33 into law in 2005.

## Barriers to the Implementation and Expansion of Distance Education

Several researchers have previously reported the following as barriers to the implementation and expansion of distance education programs in K-12 school districts. Their combined findings are described as: (a) increased time commitment, (b) lack of funding, (c) organizational resistance to change, (d) lack of shared vision for distance education in the organization, (e) lack of strategic planning for distance education, (f) lack of distance education training provided by the organization, (g) lack of necessary technical infrastructure, (h) slow pace of implementation, (i) lack of grants, (j) lack of technical support, (k) difficulty in convincing stakeholders of benefits to distance education, and (l) the lack of support staff necessary to develop courses (Berge & Muilenberg, 2003; Clark, 2001; Setzer, Lewis, & Greene, 2005).

Setzer, Lewis, and Greene (2005) have conducted the most definitive study to date related to the utilization of distance education courses in the United States public schools. They also sought to determine if there were any future plans for public school districts to expand their distance education programs. The researchers found that 72% of districts with students enrolled in distance education courses during the 2002-2003 12-month school year planned to expand their programs in the future. Based on what the respondents reported, there were no differences detected by district characteristics regarding plans to expand distance education courses. Regarding districts whose respondents indicated there were future plans to expand distance education programs, Setzer, Lewis, and Greene (2005) sought

to determine the extent to which various factors, if any, might be considered barriers that were preventing the expansion from taking place. The possible factors included course development and/or purchasing costs, limited technological infrastructure to support distance education, concerns about course quality, restrictive federal, state, or local laws or policies, concerns about receiving funding based on student attendance for distance education courses, or some other reason.

Setzer, Lewis, and Greene (2005) found that costs were the most often cited barrier preventing districts from expanding their distance education courses. Respondents from 36% of districts that were planning to expand their distance education programs reported that course development and/or purchasing costs were a major barrier preventing the expansion. Surprisingly, elements that may have been seen as barriers, were not considered as such by the respondents. Respondents from 54% percent of districts that were planning to expand their distance education courses said restrictive federal, state, or local laws or policies were not a factor preventing them from expanding. In addition, respondents from the districts said none of the following factors were preventing them from expanding distance education programs: limited technological infrastructure to support distance education, concerns about receiving funding for distance education courses based on student attendance, and concerns about course quality (Setzer, Lewis, & Greene, 2005).

Among public school districts with plans to expand their distance education courses, Setzer, Lewis, and Greene (2005) reported that 68% of the respondents indicated course development and/or purchasing costs were a moderate or major barrier keeping the district from expanding distance education courses. This reason was immediately followed by concerns about quality (37%), concerns about receiving funding for distance education courses based on attendance (36%), limited infrastructure to support distance education (33%), restrictive federal, state, or local laws or policies (17%), and some other reason (10%). Respondents representing a greater percentage of urban districts (54%) than suburban (38%) or rural districts (34%) cited receiving funding based on attendance for distance education courses as a major or moderate barrier preventing them from expanding their distance education programs.

## Research Questions

Through this study, the authors sought to answer the following overarching research questions: How are distance education courses being utilized in Georgia's K-12 public school districts? What are the perceived barriers to the implementation and expansion of distance education programs in Georgia's K-12 public school districts? The following sub-questions were also considered:

1. What is the trend of distance education utilization in the State of Georgia over the last five years?
2. To what extent does utilization of distance education differ by the districts' metropolitan status (urban, suburban, rural)?
3. For what reasons do Georgia's K-12 public school districts offer distance education courses?
4. Through what entity(ies) or programs are distance education courses available? (e.g., statewide virtual school, virtual school operated by a single district, vendor, etc.)
5. What is the extent of appropriate technology use for distance education in Georgia's K-12 public school districts? (Internet, two-way interactive video, etc.)
6. What are major implementation problems that may be hindering the expansion of distance education in Georgia's K-12 public school districts?

## Methods

### *Research Design*

According to Borg, Gall, and Gall (1993), descriptive research helps describe characteristics of the phenomena being studied. The authors conducted a descriptive study on the current utilization of distance education courses in Georgia's K-12 public school districts and the perceived barriers to the implementation and expansion of distance education programs. The authors employed a survey instrument to collect this information.

### *Population*

The authors believed that those who were the most familiar with each system's distance education

program represented the best population for the study. The population who may have been able to answer the survey questions included the superintendent, assistant superintendent for curriculum and instruction, director of curriculum, technology coordinator, distance education coordinator, or a designee in each school system that was knowledgeable about the system's distance education program. Because there was no way of knowing who was responsible for the distance education program in each system, the authors sent the survey to the system superintendents and asked them to complete the survey, or to forward the survey to the appropriate designee. The authors included a question in the demographic section of the survey in an effort to determine the job description of the individual who provided the survey responses.

*Instrumentation*

Nardi (2003) supported the idea that a survey is useful in this type of research. In the development of the survey, the authors used selected items from the survey associated with the Setzer, Lewis, and Greene (2005) study as well as some self-developed items. The authors ascertained that the Setzer, Lewis, and Greene study and associated survey questions were in the public domain and could be used with other populations as verified by B. Greene, an employee of the U.S. Department of Education and co-author of the study. In addition to collecting data concerning the current utilization of distance education courses and the districts' perceived barriers to the implementation and expansion of distance education programs, the authors collected school district demographic data as well. The authors have included the survey as an appendix. (see appendix A)

The authors established the content validity of the survey instrument by using a panel of three experts who worked in the field of K-12 distance education in Georgia. Each of the experts were involved in the administration of virtual school programs in Georgia school districts. They were asked to view the survey and provide feedback as to the nature of the questions, and whether any questions should be added or deleted. Reliability was established with a pilot study, using five of the 180 Georgia K-12 school system superintendents as the participants. The superintendents used in the pilot study were not asked to participate in the actual study. Based on responses from the individuals involved in the establishment of the validity and reliability, the survey directions and questions were edited. The survey was administered online via www.questionpro.com. The link to the survey was distributed via e-mail, and was included in a cover letter to the superintendents. After two weeks had elapsed, a follow-up e-mail was sent.

D*ata Analysis*

In order to answer the closed-form and Likert-scale research questions, the researcher reported the frequencies and percentages of responses for each question. For the Likert scale questions, the researcher also reported the mean and standard deviation, and number of respondents for each of the responses. The researcher coded the responses from the open-ended question and created categories, based on similarities. Finally, the researcher calculated a cross-tabulation with each question and the metropolitan status of the district (urban, suburban, rural), to see if there were any statistically significant differences in responses to the questions by metropolitan status of the districts (urban, suburban, rural). The cross-tabulation was calculated through the Pearson's Chi-Square test. Where necessary, the researcher entered data from the respondents into the Statistical Package for the Social Sciences (SPSS) software, Advanced Model 12.0 for Windows, to do further Chi-Square analyses in order to determine if there was a differentiation among individual parts of questions.

*Limitations*

1. Although the numbers of enrollments in distance education courses during past years would have provided valuable information for the study, the pilot study participants all reported that this data would be extremely difficult to collect and would most likely cause an extremely low survey return rate.
2. Because the survey questions were related to distance education programs, participants in school districts without any students enrolled in distance education courses may have had the perception that the survey did not apply to them.

Research Findings

*Demographic Profile of the Respondents*

The researchers sent 175 surveys, and received 65, for a return rate of 37.14%. The superintendents were asked to complete the survey, or to forward the survey to the appropriate designee in their district who could best answer the questions. The authors included a question in the demographic section to solicit the job description of the survey respondent. Table 1 indicates the job descriptions reported by the respondents, as well as the frequencies and associated percentages.

Table 1

Job Descriptions and Percentages

| Job Description | Frequency | Percentage |
|---|---|---|
| Superintendent | 22 | 33.87% |
| Associate/Assistant/Area Superintendent | 9 | 14.52% |
| Curriculum Director | 8 | 12.9% |
| Technology Director | 8 | 12.9% |
| Assistant Principal | 5 | 8.06% |
| Principal | 3 | 4.84% |
| Media Specialist | 2 | 3.23% |
| Counselor | 1 | 1.61% |
| Distance Education Supervisor | 1 | 1.61% |
| Instructional Technology Coordinator | 1 | 1.61% |
| Middle and High School Media Specialist, and District Distance Education Facilitator | 1 | 1.61% |

The respondents were asked to indicate the metropolitan status which best described their district. No definitions of the terms rural, suburban, or urban were provided for the respondents. Rather, these data were self-reported. Table 2 indicates the metropolitan status of the respondents' districts, as well as the frequencies and associated percentages.

Table 2
Metropolitan Status of Respondents

| Metropolitan Status | Frequency | Percentages |
|---|---|---|
| Rural | 50 | 76.92% |
| Suburban | 11 | 16.92% |
| Urban | 4 | 6.15% |

The respondents indicated that their district could best be described as the following: rural (75.81%), suburban (17.74%), and urban (6.45%).

The authors sought to determine the poverty level of each school district. To determine this information, the authors asked the respondents to indicate the approximate percentage of students in their district who are currently eligible for free or reduced lunch. The authors divided the responses into four categories of equal ranges. Category 1 was 0-25%, category 2 was 26-50%, category 3 was 51-75%, and category 4 was 76-100%. Table 3 indicates the authors' findings relevant to the poverty level of the respondents' districts, measured by the percentage of students eligible for free and reduced lunch.

Table 3

Poverty Level Measured by Percentage of Students Eligible for Free and Reduced Lunch

| Category | Range | Frequency | Percentage | N = 56 |
|---|---|---|---|---|
| 1 | 0-25% | 5 | 8.9 | |
| 2 | 26-50% | 15 | 26.79 | |
| 3 | 51-75% | 27 | 48.21 | |
| 4 | 76-100% | 9 | 16.07 | |

The authors also sought to determine the size of the school district, in terms of the numbers of students currently enrolled. The respondents indicated that their district fell into one of the following ranges: 2,500-9,999 students (50.82%), 1-2,499 students (29.51%), and 10,000 or more (19.67%).

The respondents were asked to indicate the approximate percentages of students who fell into various ethnic and racial categories. The authors calculated the average reported percentage for each category: White (55.28%), African-American (37.87%), Hispanic (4.67%), Multiracial (0.82%), Asian / Pacific Islander (0.8%), and American Indian / Alaskan (0.15%).

*The Trend* of Distance Education Utilization in the State of Georgia

The first research question was related to the trend of distance education utilization in Georgia over the last five years. To answer this research question, the authors included three related questions on the survey. First, the authors listed the previous five school years, including the current school year, and each instructional level (elementary, middle, high), and asked the respondents to indicate which school year(s) and at which instructional level(s) their district had any students enrolled in distance education courses. Table 4 indicates the authors' findings relevant to distance education enrollments by school year and instructional level.

Table 4

Distance Education Enrollment by School Year and Instructional Level

| Grade Level | Prior to 2001-2002 | 2001-2002 | 2002-2003 | 2003-2004 | 2004-2005 | 2005-2006 | N |
|---|---|---|---|---|---|---|---|
| PreK-5 (elementary) | 1 | 1 | 1 | 1 | 1 | 1 | 5 |
| 6-8 (middle) | 1 | 2 | 3 | 4 | 6 | 6 | 22 |
| 9-12 (High) | 15 | 15 | 21 | 30 | 39 | 49 | 169 |

The authors asked the respondents to indicate whether or not their district had any students enrolled in Advanced Placement (AP) or college level distance education courses, in the past or present. Table 5 indicates the authors' findings relevant to enrollments in Advanced Placement (AP) or college level distance education courses.

Table 5

Distance Education Enrollments in AP or College Level Courses

| Variable | Frequency | Percentage | N=55 |
|---|---|---|---|
| Never | 13 | 23.64 | |
| In the past, but not currently | 13 | 23.64 | |
| Currently, but not in the past | 6 | 10.9 | |
| Currently and in the past | 23 | 41.82 | |

The respondents were asked to indicate the curriculum area(s), if any, that their district has ever had any students enrolled. Table 6 indicates the authors' findings relevant to curriculum areas for distance education courses.

Table 6

Curriculum Areas in Which Students Have Been Enrolled in Distance Education Courses

| Area | Frequency | Percentage | N=192 |
|---|---|---|---|
| General Elementary Curriculum | 1 | 52 | |
| English / Language Arts | 37 | 19.27 | |
| Social Studies or Social Sciences (including History) | 44 | 22.92 | |
| Computer Science | 15 | 7.81 | |
| Natural or Physical Science | 30 | 15.62 | |
| Mathematics | 30 | 15.62 | |
| Foreign Languages | 23 | 11.98 | |
| Other | 12 | 6.25 | |

*Reasons for Offering Distance Education Courses*

To determine the reasons for offering distance education courses, the authors asked one question on the survey. The respondents were given a list of reasons and asked to indicate whether the reason was "not important", "somewhat important", or "very important". Table 7 indicates the authors' findings relevant to reasons why school districts offer distance education courses.

Table 7

Reasons for Offering Distance Education Courses

| Variable | Not Important 1 | Somewhat Important 2 | Very Important 3 | M | SD | N |
|---|---|---|---|---|---|---|
| Offering Courses not available at school | 2 (4%) | 17 (34%) | 31 (62%) | 2.58 | .58 | 50 |
| AP Courses | 6 (12%) | 18 (36%) | 26 (52%) | 2.40 | 0.70 | 50 |
| Growing Populations/ Limited Space | 23 (47.92%) | 17 (35.42%) | 8 (16.67%) | 1.69 | 0.75 | 48 |
| Reducing scheduling conflicts | 8 (16.67%) | 23 (47.92%) | 17 (35.42%) | 2.188 | 0.70 | 48 |
| Permitting students to repeat courses failed | 9 (18%) | 16 (32%) | 25 (50%) | 2.32 | 0.77 | 50 |
| Meeting needs of specific students | 4 (8.33%) | 22 (45.83%) | 22 (45.83%) | 2.83 | 0.64 | 48 |
| Generating | 35 (72.92%) | 9 (18.75%) | 4 (8.33%) | 1.35 | 0.64 | 48 |

| | | | | | | |
|---|---|---|---|---|---|---|
| district revenues | | | | | | |

*Entities or Programs Through Which Distance Education Courses are Available*

To determine the entities or programs through which distance education courses are available, the authors included a Likert scale question on the survey. The respondents were presented with a list of possible entities and programs. The respondents were asked to what extent their district used these entities and programs to deliver distance education courses to their students, by choosing from the following responses: “major extent”, “minor extent”, and “not at all”. The authors’ findings are presented in table 8 below.

Table 8

Entities or Programs Used to Deliver Distance Education Courses

| Variable | Major Extent 1 | Minor Extent 2 | Not at all | M | SD | N |
|---|---|---|---|---|---|---|
| Cyber charter school in district | 1 (3.33%) | 3 (10%) | 26 (86.67%) | 2.83 | 0.46 | 30 |
| Other schools in district | 1 (3.33%) | 5 (16.67%) | 24 (80%) | 2.78 | 0.50 | 30 |
| Your district (centrally) | 7 (22.58%) | 2 (6.45%) | 22 (70.97%) | 2.48 | 0.85 | 31 |
| Another district or schools in another district | 0 (0%) | 5 (17.86%) | 23 (82.14%) | 2.82 | 0.39 | 28 |
| Georgia Virtual School | 18 (41.86%) | 20 (46.51%) | 5 (11.63%) | 1.70 | 0.67 | 43 |
| State Virtual School in another state | 1 (3.23%) | 5 (16.13%) | 25 (80.65%) | 2.77 | 0.50 | 31 |
| Post-secondary institution | 5 (15.15%) | 15 (45.45%) | 13 (39.39%) | 2.24 | 0.71 | 33 |
| Independent vendor | 12 (34.29%) | 12 (34.29%) | 11 (31.43%) | 1.97 | 0.82 | 35 |

*Extent of Appropriate Technology Use for Distance Education Courses*

The authors sought to determine the extent of appropriate technology use for distance education courses in Georgia’s K-12 public school districts. This was achieved by asking several questions on the survey. The authors sought to determine which technologies are used as primary modes of instructional delivery for any distance education courses in which students are enrolled. The respondents were asked to check all of the technologies that applied to their district. The authors’ findings are presented in table 9.

Table 9

Technologies Used as Primary Modes of Delivery for Distance Education Courses

| Variable | Frequency | Percentage | N=71 |
|---|---|---|---|
| Synchronous Internet courses | 18 | 25.35 | |
| Asynchronous Internet courses | 38 | 53.52 | |
| | | | |

| | | | |
|---|---|---|---|
| Two-way interactive video (i.e., GSAMS) | 9 | 12.68 | |
| One-way pre-recorded video | 5 | 7.04 | |
| Other | 1 | 1.41 | |

The authors also sought to determine the technology used for the greatest number of distance education enrollments in the school districts. The respondents were given the same list of technologies and were asked to choose only one response. The authors' findings are presented in table 10.

Table 10

Technology Used for the Greatest Number of Distance Education Courses

| Variable | Frequency | Percentage | N=51 |
|---|---|---|---|
| Synchronous Internet Courses | 8 | 15.69 | |
| Asynchronous Internet courses | 37 | 72.55 | |
| Two-way interactive video (i.e., GSAMS) | 3 | 5.88 | |
| One-way pre-recorded video | 3 | 5.88 | |
| Other | 0 | 0 | |

The authors sought to determine the location from which students participate in distance education courses. This was accomplished by asking the respondents to indicate to what extent (major, minor, or not at all) their students were accessing distance education courses. The choices were as follows: at home, at school, or some other location (e.g., public library). The authors' findings are presented in table 11.

Table 11

Location Where Students are Accessing Distance Education Courses

| Variable | Minor Extent 1 | Major Extent 2 | Not at all 3 | M | SD | p | N |
|---|---|---|---|---|---|---|---|
| At home | 21 (46.67%) | 14 (31.11%) | 10 (22.22%) | 1.76 | 0.8 | 0.02 | 45 |
| At school | 16 (32%) | 29 (58%) | 5 (10%) | 1.78 | 0.62 | 0.76 | 50 |
| Some other location | 16 (43.24%) | 3 (8.11%) | 18 (48.65%) | 2.05 | 0.97 | 0.28 | 37 |

$p = < .05$

Pearson's Chi-Square test revealed a significant difference ($p = < .05$) in the location from which rural students access their courses ($p = .02$) compared to locations from which urban and suburban students access their courses. The test showed that rural students access their courses from home to a much lesser extent than do students in urban and suburban districts.

The authors sought to determine whether the districts provide or pay for a computer, Internet service provider, and/or tuition for all, some, or none of their students who access distance education courses from home. The authors' findings are presented in table 12.

Table 12

District Funding for Student Home Access of Distance Education Courses

| Variable | Yes for all 1 | Yes for some 2 | None 3 | M | SD | N |
|---|---|---|---|---|---|---|
| Computer | 2 (5%) | 6 (14%) | 34 (81%) | 2.76 | 0.53 | 42 |
| Internet service provider | 2 (5%) | 2 (5%) | 38 (90%) | 2.86 | 0.47 | 42 |
| Tuition | 7 (17%) | 6 (15%) | 28 (68%) | 2.51 | 0.78 | 41 |

The authors attempted to discern why the districts who paid for some or all of the items did so, and why those who did not made that choice. This question was asked in an open-ended format. For those respondents who indicated that funding was allocated for a computer, an Internet service provider, and/or tuition for some or all students, most of the justification for this practice was because students need the course for graduation. Other reasons for providing these items were related to students with special needs or circumstances, such as hospital or homebound students. For those respondents who indicated that their system does not pay for computers, an Internet service provider, or tuition for any students, the justification centered around the fact that the courses were supplemental for their students, or that there were no funds available for this practice.

*Barriers to Implementation and Expansion of Distance Education Programs*

Research questions were also related to the implementation problems that may hinder the expansion of distance education courses in Georgia's public school districts. To answer this question, the authors included several questions on the survey. The authors asked the respondents if there is a need to expand the distance education program in their districts at this time. Table 13 indicates the authors' findings relevant to the need for each district's distance education program to expand.

Table 13

Need for Each District's Distance Education Program to Expand

| Variable | Frequency | Percentage | p = 0.041 | N=50 |
|---|---|---|---|---|
| Yes | 31 | 62 | | |
| No | 19 | 38 | | |

$p = < .05$

Pearson's Chi-Square test revealed a significant difference in responses among respondents from rural, suburban, and urban districts ($p = <.05$). Specifically, the percentage of respondents from rural districts who indicated there was a need to expand their district's distance education program ($p = 0.041$) was significantly higher than the percentage of respondents from suburban and urban districts reporting a need to expand. Moreover, the percentage of suburban respondents reporting there was not a need to expand was greater than the percentage of suburban respondents who reported a need to expand.

The authors also sought any additional comments the respondents may have about the needs of their school district in relation to the expansion of distance education, i.e., why there was or was not a need to expand their distance education programs. This question was presented in an open-ended format. Responses were analyzed and organized into the following categories: Student capabilities, meeting specific student needs, facilities, funding, and courses.

In the area of meeting specific student needs, respondents noted the following populations that would benefit from the expansion of distance education courses: hospital and/or homebound, students who have

been suspended and/or placed in alternative school, students who have fallen behind, students who have scheduling conflicts or have transferred from other districts and/or states with different requirements, non-traditional students, special education students, districts where the student population is growing faster than the district can add classroom space, and for meeting specific needs outlined in the No Child Left Behind Act of 2001 (NCLB).

Regarding facilities, one respondent indicated their district would like to add a computer lab to their school to better serve students in distance education courses, but that this addition is currently cost prohibitive. Another respondent indicated that their district needs more funding for courses that require tuition, particularly in cases where the student cannot pay for these courses. Along these same lines, one respondent indicated their district office personnel would like to have more FTE-based slots through the Georgia Virtual School program

In terms of specific courses, respondents indicated they would like to expand their course offerings in the following areas: all AP courses, AP Calculus, advanced math, physics, remedial courses, and electives. One respondent indicated that students in their district have so many required courses that they cannot take many electives. The respondent stated that online course availability in required areas of study would lessen the burden on student schedules so that students would be able to take additional electives.

The authors sought to determine the specific perceived barriers to the expansion of distance education courses. Respondents were presented with a list of possible barriers, and were asked to indicate to what extent these were barriers for their district. The choices were “not at all”, “minor barrier”, “moderate barrier”, and “major barrier”. The major findings from are presented in table 14.

Table 14

Perceived Barriers to the Expansion of Distance Education Programs

| Variable | Not at all 1 | Minor barrier 2 | Moderate barrier 3 | Major barrier 4 | M | SD | p | N |
|---|---|---|---|---|---|---|---|---|
| Course development and/or purchasing costs | 8 (16%) | 10 (20%) | 15 (31%) | 16 (33%) | 2.8 | 1.1 | 15 | 49 |
| Restrictive laws or policies | 23 (47%) | 19 (39%) | 5 (10%) | 2 (4%) | 1.71 | 0.82 | 0.14 | 49 |
| Resistance to change | 21 (43%) | 18 (37%) | 7 (14%) | 3 (6%) | 1.84 | 0.9 | 0.03 | 49 |
| Lack of shared vision for distance education in the district | 16 (33%) | 24 (49%) | 8 (16%) | 1 (2%) | 1.89 | 0.75 | 0 | 49 |
| Lack of strategic planning for distance education | 19 (39%) | 18 (37%) | 9 (18%) | 3 (6%) | 1.92 | 0.91 | 0.08 | 49 |
| Lack of other sources of funding | 5 (10%) | 12 (24%) | 15 (31%) | 17 (35%) | 2.9 | 1.0 | 0.63 | 49 |
| | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Difficulty in convincing stakeholders of benefits | 23 (47%) | 15 (31%) | 9 (18%) | 2 (4%) | 1.8 | 0.89 | 0.02 | 49 |
| Lack of support staff necessary to develop courses | 15 (31%) | 14 (29%) | 10 (20%) | 10 (20%) | 2.31 | 1.12 | 0.04 | 49 |

p = < .05

Pearson's Chi-Square test revealed that there were some significant differences between respondent choices across the three metropolitan statuses. Specifically, rural respondents indicated that the following variables were not a barrier, were a minor barrier, or were a moderate barrier, at a statistically significant higher rate than suburban or urban respondents: organizational resistance to change, lack of shared vision for distance education in the district, lack of strategic planning for distance education, difficulty in convincing stakeholders of the benefits of distance education, and lack of support staff necessary to develop courses (p = <.05).

To determine the perceived barriers to the implementation of distance education programs, and to determine the percentage of respondents who did not have any students currently enrolled in distance education courses, the authors developed a question regarding the barriers to the implementation of distance education programs. Only those individuals who represent districts with no current distance education enrollments were asked to respond. The participants were presented with a list of possible reasons, considered as barriers to implementation, as to why their district did not currently have any enrollments. They were asked to choose from the following: "not at all", "minor reason", "moderate reason", and "major reason". The authors' findings are presented in table 15.

Table 15

Reasons Why Districts Do Not Have Students Enrolled in Distance Education Courses

| Variable | Not at all 1 | Minor reason 2 | Moderate reason 3 | Major reason 4 | M | SD | N |
|---|---|---|---|---|---|---|---|
| Lack of technical infrastructure | 8 (40%) | 5 (25%) | 3 (15%) | 4 (20%) | 2.2 | 1.2 | 20 |
| Lack of training for personnel | 8 (38%) | 5 (24%) | 7 (33%) | 1 (4.76%) | 2.1 | 0.97 | 21 |
| Lack of technical support | 10 (50%) | 3 (15%) | 4 (20%) | 3 (15%) | 2.0 | 1.2 | 20 |
| Lack of grants | 6 (30%) | 3 (15%) | 7 (35%) | 4 (20%) | 2.5 | 1.2 | 20 |
| Lack of other sources of funding | 5 (25%) | 0 (0%) | 7 (35%) | 8 (40%) | 2.9 | 1.2 | 20 |
| Increased time commitment | 5 (24%) | 3 (14%) | 10 (48%) | 3 (14%) | 2.5 | 1.0 | 21 |
| Resistance to change | 14 (70%) | 3 (15%) | 2 (10%) | 1 (5%) | 1.5 | 0.89 | 020 |
| Slow pace of | 7 (35%) | 4 (20%) | 6 (30%) | 3 (15%) | 2.3 | 1.1 | 20 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| implementation | | | | | | | |
| Lack of shared vision | 10 (48%) | 6 (29%) | 3 (14%) | 2 (10%) | 1.9 | 1.0 | 21 |
| Lack of strategic planning for distance education | 6 (29%) | 6 (29%) | 6 (29%) | 3 (14%) | 2.3 | 1.1 | 21 |
| Difficulty in convincing stakeholders of benefits | 12 (60%) | 4 (20%) | 3 (15%) | 1 (5%) | 1.7 | 0.93 | 20 |
| Lack of support staff to develop courses | 6 (30%) | 3 (15%) | 7 (35%) | 4 (20%) | 2.5 | 1.2 | 20 |

The authors gave the participants the opportunity to make any additional comments or provide any additional information they wanted to share regarding the barriers to implementing and/or expanding the distance education program in their district. An open-ended question was included in the survey for this purpose. The authors analyzed the data from this question and organized the responses into three categories: infrastructure, student needs, and funding.

Two respondents commented on issues related to infrastructure. Specifically, one respondent stated that their district was currently experiencing a lack of available computer equipment. The other respondent indicated that their district suffered from a lack of technical support necessary to sustain a distance education program.

Several respondents made comments related to students and their needs. One respondent stated that student maturation was a barrier to the implementation and expansion of distance education courses. Another respondent stated that distance education has worked better for their "average" to "above average" students than for their "below average students". However, it is most often those students in the "below average" category who need additional opportunities for credit recovery. In terms of specific courses, two respondents commented on Advanced Placement (AP) courses by indicating that their students who had taken online AP courses had not performed as well on the AP exam as those students who took the same courses in a traditional setting. Another respondent indicated that they would like more data on the performance of students who have taken AP courses online before they would be comfortable allowing their own students to participate in these courses. Another respondent indicated that if more academic and technical/career/vocational courses were offered, their district would be more likely to participate.

Other respondents indicated that funding issues are the barriers to implementation and expansion of distance education courses in their district. Specifically, the loss of FTE funding and student tuition costs made distance education courses prohibitively expensive for these districts. Other districts reported that they need funding to support a teacher who is assigned to be the monitor or facilitator for the students enrolled in distance education courses.

Finally, two respondents added that their districts have not explored the option of distance education courses. One of these two respondents indicated that they acknowledged the benefits of having this option available to their students.

## Conclusions

The authors concluded from the study that:

1. Distance education enrollments are increasing in Georgia's public school districts, especially at the high school level. This is consistent with the findings of Clark (2001) and Setzer, Lewis, and Greene (2005).
2. The majority of rural school districts in Georgia that have students enrolled in distance education courses have some students enrolled in AP or college level distance education courses. This is consistent with the findings of Clark (2001), Setzer, Lewis, and Greene (2005), and Zucker et al. (2003).
3. Social studies courses (including history) represent the curriculum area in which the greatest numbers of Georgia students are enrolled in distance education courses. This is consistent with the findings of Setzer, Lewis, and Greene (2005).
4. The majority of rural districts in Georgia offer distance education courses to their students because the courses are not offered in the regular school setting. This is consistent with the findings of Setzer, Lewis, and Greene (2005).
5. Most of the rural school districts in Georgia with students enrolled in distance education are using the Georgia Virtual School program as the course provider.
6. Asynchronous Internet-based (online) courses, e.g. the courses taught by the Georgia Virtual School, are used for the greatest number of distance education courses in Georgia's public schools. This differs with the findings of Setzer, Lewis, and Greene (2005), who found that two-way interactive video was reported as the most often used technology to deliver distance education courses in school districts.
7. Most of the students from rural districts in Georgia who are enrolled in distance education courses are accessing their courses from school. This is consistent with the findings of Setzer, Lewis, and Greene (2005).
8. The majority of school districts in Georgia do not pay for a computer, Internet service provider, or tuition for students who are accessing online distance education courses from home. This is consistent with the findings of Setzer, Lewis, and Greene (2005).
9. For those Georgia districts that have a distance education program, especially those that are rural, most are experiencing a need to expand their program. This is consistent with the findings of Setzer, Lewis, and Greene (2005).
10. Costs and/or funding issues are the most frequently noted major barriers to the implementation and expansion of distance education programs in Georgia. This is consistent with the findings of Setzer, Lewis, and Greene (2005).

## Implications

Data revealed through this study led to the conclusion that the numbers of distance education enrollments in Georgia are increasing, and online courses are the main vehicle being used to deliver these courses. Because costs and/or lack of funding were the most frequently cited barriers to the implementation and expansion of distance education programs, the Georgia legislature should be aware of this problem. The authors' findings have a direct impact on educational policy in the state of Georgia, and serve as proof that changes should be made to ease the financial burden so that all school districts who wish to participate may do so.

## Recommendations

1. Lawmakers in Georgia should search for ways to provide free seats in online courses for rural districts and students who cannot afford them otherwise.
2. Further research should include actual numbers of enrollments in distance education courses to gain a better sense of trends in enrollment.
3. Further research should be conducted on enrollments in distance education courses based on racial and ethnic categories.
4. Further research should be conducted on the use of distance education courses with career/technical preparatory students and special education students.
5. The study should be replicated in several years to determine if any significant changes have occurred in relation to the utilization of distance education courses and the perceived barriers to the implementation and expansion of distance education programs.
6. Similar studies should be conducted in other states, possibly incorporating qualitative research methods.

APPENDIX A - SURVEY
GEORGIA K-12 DISTANCE EDUCATION QUESTIONNAIRE

This survey is part of a statewide study on the current utilization of distance (including online) education courses, and the perceived barriers to the implementation and expansion of distance education programs in public schools in Georgia.

Before responding to any of the survey questions, please read the following:

Distance education courses are credit-granting courses offered to students enrolled in your district in which the teacher and students are in different locations. These courses:

- May originate from your district or from other entities (e.g., a state virtual school or a postsecondary institution).
- May be delivered via audio, video (live or prerecorded), or Internet (online) or other computer technologies, including both synchronous (i.e., simultaneous or "real time") and asynchronous (i.e., not simultaneous) instruction.
- May include occasional face-to-face interactions between the teacher and the students. For example, a teacher teaching a course at several schools via video-conferencing may rotate between schools, or the teacher and students may be in the same location for occasional lab work or tests.

For purposes of this survey, please DO NOT include information about any of the following:

- supplemental course materials
- virtual field trips
- online homeworks
- staff professional development
- courses conducted mainly via written correspondence

Please DO include information about all of the following:

- all schools administered by your district (e.g., regular schools, charter schools, magnet schools, alternative schools)
- any distance education Advanced Placement (AP) or college-level courses in which students in your district are enrolled

In completing this survey, you acknowledge that your responses will be used as a part of a published dissertation, and that you have been advised of the risk and benefits of this activity. You should be aware that Internet security cannot be guaranteed. The risk of others reading your responses is very small; however, neither I or Georgia Southern University can guarantee total anonymity.

1. For each grade level listed on the left, and each school year listed across, please check the box to indicate if your district has had any students enrolled in distance education courses at that level during each school year. Note: If your district has never had any students enrolled in distance education courses, please skip to question 14 by clicking Continue at the bottom of each screen, and answer questions 14-20.

| | prior to 2001-2002 | 2001-2002 | 2002-2003 | 2003-2004 | 2004-2005 | 2005-2006 |
|---|---|---|---|---|---|---|
| Grades PreK-5 | | | | | | |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Grades 6-8 | | | | | | |
| Grades 9-12 | | | | | | |

2. Please choose the following statement that best describes your district:

a. My district has never had any students enrolled in AP or college level courses delivered via distance education.

b. In the past, my district has had student(s) enrolled in AP or college-level courses delivered via distance education, but not currently.

c. My district currently has student(s) enrolled in AP or college-level courses delivered via distance education, but has not in the past.

d. My district has had students enrolled in AP or college-level courses delivered via distance education in the past, and we have student(s) currently enrolled.

3. Which technologies are used as primary modes of instructional delivery for any distance education courses in which students in your district are enrolled? (Please check all that apply).If a course uses multiple technologies to deliver instruction, but one mode predominates, choose the predominant mode for the course. Please take into account any distance education courses in which students in your district are enrolled, regardless of where the courses originated. Please do not consider technologies used for supplemental course materials or professional development.

1. Internet courses using synchronous (i.e., simultaneous or real-time) computer-based instruction (e.g., interactive computer conferencing)
2. Internet courses using asynchronous (i.e., not simultaneous) computer-based instruction
3. Two-way interactive video (e.g., GSAMS)
4. One-way pre-recorded video (including pre-recorded videos provided to students, and television broadcast and cable transmission using pre-recorded videos)
5. Other technology (please describe) _____

4. Of the technologies listed below, which one is used for the greatest number of distance education courses in which students in your district are enrolled?

1. Internet courses using synchronous (i.e., simultaneous or real time) computer-based instruction (e.g., interactive computer conferencing)
2. Internet courses using asynchronous (i.e., not simultaneous) computer-based instruction
3. Two-way interactive video (i.e., two-way video with two-way audio)
4. One-way pre-recorded video (including pre-recorded videos provided to students, and television broadcast and cable transmission using pre-recorded videos)
5. Other technology (please describe) _____

5. To what extent are the following entities used to deliver the distance education courses in which students in your district are enrolled? (Please choose one response per line.)

| | Major Extent | Minor Extent | Not at all |
|---|---|---|---|
| Cyber (i.e., online) charter school in your district | | | |
| Other schools in your district | | | |
| Your district (i.e., delivered centrally from the district) | | | |
| Another local school district, or schools in another | | | |

| | | | |
|---|---|---|---|
| district | | | |
| The Georgia Virtual School Program | | | |
| State virtual school in another state | | | |
| Postsecondary Institution | | | |
| Independent Vendor | | | |

6. For each of the curriculum areas below, please choose each area in which your district has ever had any student(s) enrolled in distance education courses:

1. General elementary school curriculum
2. English or Language Arts
3. Social Studies or Social Sciences (including History)
4. Computer Science
5. Natural or Physical Science (e.g., Biology, Chemistry, Physics)
6. Mathematics
7. Foreign Languages
8. Other (please describe) _____

7. To what extent are students in your district accessing online distance education courses at the following locations? (Please choose one response per line.)

| | Minor Extent | Major Extent | Not at all |
|---|---|---|---|
| At home | | | |
| At school | | | |
| Some other location (e.g., public library) | | | |

8. Does your district provide or pay for the following items for students accessing online distance education courses from home? (please choose one response per line.)If online distance education courses are not accessed at home by students in your district, please skip to question 10.

| | Yes, for all students | Yes, for some students | No |
|---|---|---|---|
| Computer | | | |
| Internet service provider | | | |
| Tuition | | | |

9. If your district pays for some or all of the items listed in the previous question, why? If not, why not? Please type your answer below.

10. Is there a need to expand the distance education program in your district at this time?

1. Yes
2. No

11. Please use the space below to provide any additional comments or information you would like to share about the needs of your school district in relation to the expansion of distance education courses, i.e., why there IS or IS NOT a need to expand distance education courses in your district at this time.

12. How important are the following reasons for having students enrolled in distance education courses in your district? Please take into account any distance education course

in which students in your district are enrolled, regardless of where the courses originate. (Please choose one response per line.)

| | Not important | Somewhat important | Very important |
|---|---|---|---|
| Offering courses not otherwise available at the school | | | |
| Offering Advanced Placement or college-level courses | | | |
| Addressing growing populations and limited space | | | |
| Reducing scheduling conflicts for students | | | |
| Permitting students who failed a course to take it again | | | |
| Meeting the needs of specific groups of students | | | |
| Generating more district revenues | | | |

13. To what extent are the following items considered barriers to the expansion of the distance education program in your district? (Please choose one response per line.)

| | Not at all | Minor barrier | Moderate barrier | Major barrier |
|---|---|---|---|---|
| Course development and/or purchasing costs | | | | |
| Lack of distance education training for personnel in your district | | | | |
| Lack of necessary technological infrastructure | | | | |
| Restrictive federal, state, or local laws or policies | | | | |
| Increased time commitment | | | | |
| Organizational resistance to change | | | | |
| Slow pace of implementation | | | | |
| Lack of shared vision for distance education in the district | | | | |
| Lack of strategic planning for distance education in the district | | | | |
| Concerns about course quality | | | | |
| Concerns about receiving funding based on student attendance for distance education courses | | | | |
| Lack of grants | | | | |
| Lack of other sources of funding | | | | |
| Lack of technical support | | | | |
| Difficulty in convincing stakeholders of benefits | | | | |
| Lack of support staff necessary to develop courses | | | | |

14. Please answer this question ONLY if there are currently NO students in your district enrolled in distance education courses. To what extent are the following factors considered reasons why there are currently no students enrolled in distance education courses in your district? (Please choose one response per line.)

| | Not at all | Minor reason | Moderate reason | Major reason |
|---|---|---|---|---|
| Lack of necessary technological infrastructure | | | | |
| Lack of distance education training provided by your district | | | | |
| Lack of technical support | | | | |
| Lack of grants | | | | |
| Lack of other sources of funding | | | | |
| Increased time commitment | | | | |
| Organizational resistance to change | | | | |
| Slow pace of implementation | | | | |
| Lack of shared vision for distance education in the district | | | | |
| Lack of strategic planning for distance education in the district | | | | |
| Difficulty in convincing stakeholders of benefits to distance education | | | | |
| Lack of support staff necessary to develop courses | | | | |

15. Please use the space below to provide any comments or information you would like to share about the barriers to the implementation or expansion of distance education courses in your school district, i.e. factors that may be hindering your district from implementing or expanding distance education courses.

16. How would you best describe the metropolitan status of your district?

1. Urban
2. Suburban
3. Rural

17. What is the approximate percentage of students in your district who are eligible to receive free or reduced lunch?

18. How many students are enrolled in your district?

1. 10,000 or more
2. 2,500 - 9,999
3. 1 - 2,499

19. Please report the approximate percentages of students regularly enrolled in your district who are in each of the following ethnic/racial categories:

1. African-American
2. White
3. American Indian / Alaskan
4. Multiracial
5. Hispanic
6. Asian / Pacific Islander

20. Which of the following best describes your position within the school district? (Please choose only one response.)

1. Superintendent
2. Associate/Assistant/Area Superintendent
3. Principal
4. Curriculum Director
5. Technology Director
6. Assistant Principal
7. Counselor
8. Media Specialist
9. Teacher
10. Distance Education Facilitator
11. Other (please describe) _____

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