The Development of an Online Course to Teach Public Administrators Computer Utilization

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Abstract

Although there is a growing requirement that public administrators have technology skills, within the Master of Public Administration programs at most universities there are few accommodations for technology training that are both field specific and meet the demands of non-traditional graduate students. Often times the computer courses that are offered are designed to address the needs of students pursuing careers in private industry or teaching. For example, at the State University of West Georgia many MPA students have taken "Computer Utilization for Educators" so they could learn some technology skills before graduating (Clay). Many aspects of this course, however, include components such as the software program called Gradebook that are of no use to a public administrator. In addition, the needs of public administrators and graduate students who already work as full-time professionals, and often have families, are not met by traditional on-campus courses. For these reasons, a uniquely designed comprehensive "Computer Utilization for Public Administrators" course has been developed. The class content was based on two in-depth surveys and offered on-line, allowing participants to take most of the course outside of the traditional classroom.

This paper will review the findings of the two surveys and the class that resulted. The assessments were conducted in September and October 1997; the first survey to question nearly 75 identified public administrators within our area and the second to survey current University of West Georgia MPA students. Together the findings identified: (1) the need for a computer utilization course within the MPA program at UWG; (2) the specific technology skills demanded by public managers in our market area; (3) the viability of implementing a successful on-line course to meet the needs of existing MPA students AND attract new enrollment from professionals; (4) and whether such a course should be offered as both a credit and/or non-credit continuing education course. The information gathered from the surveys was used to design, market, and implement the mostly online "Computer Utilization for Public Managers" course. The combination credit and non-credit continuing education class began in January of 1998 and will end in mid-March.

Background: Why was this course needed?

The Changing Environment of Public Administration

In today's truly global and information-driven world, technology skills have become the key to success not only in the private sector but the public one as well. Realizing the important implications of technology utilization for public managers, many government officials have joined forces with the private sector to facilitate the advancement of training initiatives. One such group, Public Technology Incorporated, has described its mission as "exploring ways in which the information highway can be used to enhance local government operations, strengthen democracy, and drive economic development in our cities and counties ("Local Governments").

Similarly, the Global Summit for Mayors' Declaration issued at the 1994 United Nations Conference on Trade Efficiency called upon mayors of the world to work to find practical ways to implement local government involvement in electronic commerce and delivery of services. As one mayor explained, "The ability to move information, people, and products, will decide a community's role in that international marketplace and determine whether its economy succeeds or fails" ("Mayors"). In 1996 a second UN Conference on Human Settlements also endorsed the need for local government in technology utilization for the purposes of creating economic activity, forming strategic alliances, improving services to citizens, and expanding the essential role of local government in urbanization ("Government and Technology").

While states such as Maryland and Iowa work on perfecting statewide intergovernmental information technology, Georgia local government lags far behind (Tageldin). Surveys recently conducted independently by the State Department of Corrections (quoted in "Survey: Staff's Reluctance" 1-3) and the Georgia Forestry Commission (Farris 1) both came to the same dire conclusion: administrators and assistants in Georgia's public sector have a vast deficiency in computer utilization skills and little access to training. The chief statewide training officer for the Georgia Forestry Commission is currently looking at our proposed online course as an option for comprehensive training for 500 of his associates, as a result of his departmental survey as well as an informal survey conducted by the Georgia Municipal Association (Farris Interview).

The Changing Needs of Students

Traditional students are no longer the norm on today's campuses. As demographics shift, nearly 50 percent of all U.S. college students are over 25, working, and often raising families (sometimes as single parents). Online education provides the necessary freedom of time and space sought by these students. In a recent survey conducted by the National College Entrance Exam Board, an increasing number of younger students are also facing similar pressures and looking to meet the same need for flexibility that distance learning technologies can provide (Aslanian 2). In fact, of the more than 14 million college students, only about 3 million attend full-time in residence and are less than 22 years old (Dubois 1). In addition, the continuous fast-paced advancement of technologies in many technical and professional fields has necessitated continuing education for many people as on ongoing process (Witherspoon 4-7).

Similarly, on the UWG campus the number of non-traditional students - those over the age of 25, as well as the number of part-time students, has been growing ("SUWG Factbook" 19). To meet the unique demands of these students, who are employed at least part-time, the school has implemented entire external degree programs available at off-campus sites on nights and weekends. In addition, distance learning capabilities and offerings have been greatly expanded through the use of Georgia's Statewide Academic and Medical System (GSAMS). As part of the school's recent online initiative, the MPA course will help the institution realize its goal of reaching out to the rising number of non-traditional students, as outlined in the mission statement and "A Vision for SUWG: The Year 2000

and Beyond" ("SUWG Factbook" 70-71).

The Changing Nature of the Educational Environment

The proposal of this course, specifically as an online option, may best be seen as an illustration of the university's need to adjust to the new client-based paradigm emerging today in education. During a time when funding for new educational infrastructure has come to a virtual standstill in most states, distance learning technologies have broken down protective territorial barriers. As the demands of non-traditional students continue to grow, the environment in which higher educational institutions must exist has taken on a whole new identity.

All varieties of distance education delivery have grown exponentially over the past few years. A recent sample survey concluded that 9 out of 10 colleges with existing distance learning programs plan to continue expansion via Internet delivery ("Survey" 106). In 1993 *Peterson's* college guide reported 93 "cyber schools;" in 1997 the *Distance Learning* guide reported 762 such schools (quoted in Gubernick & Ebling 1). In particular to our proposal, a recent survey conducted by Iowa University noted the marked shift of MPA programs toward the use of distance learning technologies and most especially the Internet (Rahm).

As described by theorist Pete Wagschal, traditional education as constrained by time and space, has been necessarily hierarchical and dominated by a single paradigm: a teacher in a classroom speaking to his or her students. The paradigm shift described as "Distributed Learning" has already been emerging as a force prompting educators and school administrators to alter their organizational structure and behavior to meet the needs of a changing world. The new paradigm, as Wagschal describes it, is outlined in Table 1.

Table 1. The Paradigm Shift in Education (Wagschal 5)

Long-standing Educational Practices	Newly Preferred Educational Practices
Teachers lecture; students listen.	Teachers guide, coach, motivate, and facilitate.
Working as an individual is prized.	Working together is prized.
Content is balkanized into "subjects".	Subjects are usually integrated.
Fact-centered curriculum.	Problem-centered curriculum.
Teacher is primary source of knowledge.	There are many rich sources of knowledge.
Teacher's words & print media are the primary means of communication.	There are ample opportunities to explore concepts using a variety of media.
Student success is based on ability to memorize and report information back.	Student success is presumed when students solve problems, communicate ideas, present information, and learn how to learn.
Schools are insular, largely separated from the rest of the community.	Learning takes place throughout the community. Computers connect the world to the classroom and the classroom to the world.

Today's educational organization must learn to adapt in its new environment if it is to survive (Morgan 39-76). This online MPA initiative may be viewed as a direct effort by the university to deliver

accessible, quality education that meets the changing needs of students today. In fact, the paradigm shift that the proposed online course illustrates may be seen as survival of the fittest in every respect, for every stakeholder as well as the institution: the student who must keep up with technologies in order to gain or maintain employability; the public administrator who is constantly challenged to do more with less, to deliver efficient services, and to maintain vital networks with private industry; the faculty member who must learn to adapt methods and maintain quality of instruction, to meet the demands of clients in an increasingly competitive global educational system; the school administrator who must struggle with logistical concerns, high levels of competition for enrollment, and maintenance of evaluation and monitoring methods for accountability purposes; and the community in general; as the preamble to the 1997 official report by the Office of Information and Instructional Technology for Georgia's Board of Regents' reads ("Report" 1):

> The environment of the 21st century will be electronic, its currency will be information and its scope global. It is critical to the future well being of Georgia that we develop the educational structures and programs necessary to meet the challenges of the new century successfully.

Methodology

The specific findings and recommendations of this paper are based on the two surveys conducted during September and October 1997. Respondents were asked to provide quantitative and qualitative data on personal computer training needs as well as the training needs of their organizations. The introductory letter was sent and a pretest conducted.

The phone survey, hereafter referred to as Survey #1, questioned professional administrators in an identified target market including nine surrounding counties and statewide Regional Development Centers (RDCs). The central purpose of the survey was to measure the importance of specific computer skills to the occupation of public administrator in general, the administrators' personal need for training in each skill, and their perception of the training needs of others in the organization. The survey was also conducted to investigate interest and capability of enrolling in an on-line versus on-campus computer utilization course, either for credit or non-credit. In addition, administrators were asked to estimate the number of co-workers they would encourage to participate in each setting.

A written questionnaire, hereafter referred to as Survey #2, questioned the MPA students enrolled at the State University of West Georgia during the Fall quarter 1997. Similarly, the purpose of the second survey was to assess current technology skill levels and needs of students and their organizations. Again the goal was to measure acceptance and capability of on-line class participation by the current student population.

As a fundamental step in program analysis, these assessments identified the needs of the MPA program's primary stakeholders; current students as well as non-students working in the field. In addition to providing the foundation for the online technology course, much of the information gathered may be helpful to school administrators attempting to gauge the success of just such a course in boosting enrollment.

The act of conducting the surveys, in itself, has facilitated communication between the school as a service provider and an untapped community market in need. Unsolicited comments made by many phone respondents emphasized their interest in participating in the class. Ultimately, contacts made during the course of this assessment proved extremely valuable to recruitment efforts. In fact, in phone respondents and their colleagues currently account for six of the twenty class participants.

Public Administrators Survey # 1: Characteristics

Public administrators chosen initially for the survey were selected from an identified target market consisting of nine counties surrounding the West Georgia area and statewide Regional Development Centers. Since the pilot implementation of the course called for students to visit the campus two times, the target area for this assessment was based on geographic proximity, Fall 1996 county enrollment data ("SUWG Factbook" 18), and perceived possible statewide RDC interest in the proposal. The high number of respondents from Floyd County is a reflection of the many state agencies based in that area. There were lower numbers of respondents from the Alabama counties due to their mostly rural populations. Fifteen of the nineteen Georgia Regional Development centers are represented in the survey. (See Table 1)

Table 1. Survey #1: Distribution of Respondents within the Market Area

Market Area	# of Respondents
Carroll County, GA	8
Coweta County, GA	8
Douglas County, GA	8
Haralson County, GA	8
Heard County, GA	8
Floyd County, GA	12
Calhoun County, AL	3
Cleburne County, AL	3
Randolph County, AL	4
**Other (RDCs)	15
TOTAL:	**77**

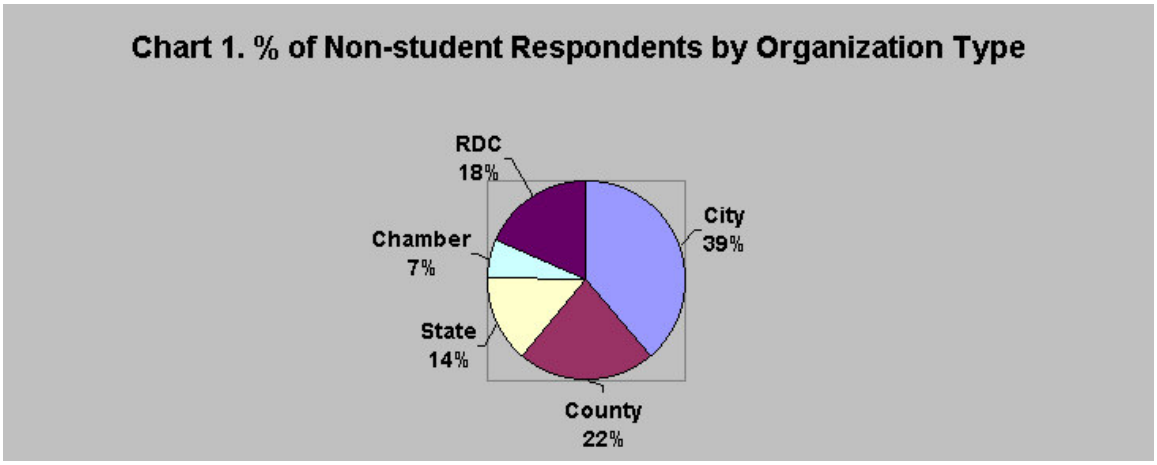
It was assumed that there would be significantly more training need at the local and state organizational levels. The survey's target audience was not a sample. Names, addresses and phone numbers of **all** top administrators, in each type of local and state government organization and within the defined target area, were researched thoroughly. Letters explaining the purpose of the survey and the timeframe for their requested participation were sent to 58 initially selected officials. Phone calls were made over an

approximate 6-week period in September and October.

One of the concluding questions of the survey asked that participants refer other possible survey respondents on our topic. If an initial respondent was unable or refused to answer the survey, a secondary referred party was always provided. In this way, the total number of final respondents "snowballed" into seventy-seven. Sixty percent of respondents were male, while 40 percent were female.

These 77 respondents included city administrators, mayors, county managers, county commission chairs, RDC executive directors, Chamber of Commerce directors, directors of state offices in the area, and various other assistants at each level. Seven out of ten administrators had earned a Bachelor's Degree or higher.

Of the 6 types of governmental organizations surveyed, nearly 40 percent of respondents were from the city level. (See Chart 1)



Major Findings of the Public Administrators' Survey #1

Non-student Course Interest

Nearly 85% of all respondents said that they would be interested in taking the course in general. In fact, almost half responded that they would be "very interested" in a course that offered to teach some or all of the nine computer skills identified in the survey.

Similarly, over three-fourths of all professional administrators surveyed said they would be more inclined to take the course as an online option. An additional seven out of ten said that offering the course online would not change their interest in the course. (See Table 2-3)

Table 2. Survey #1: Interest in the Course

General Course Interest	# of respondents	% of respondents
"very interested"	35	45.5%
"somewhat interested"	30	39

"not interested"	12	15.6
TOTAL:	77	100%

Table 3. Survey #1: Overall Inclination to take the Course Online

Inclination to take the course online:	# of respondents	% of respondents
"yes, more inclined"	56	76.7%
"no, less inclined"	12	16.4
"no difference"	5	6.9
TOTAL:	73	100%

Lack of access to a computer was not a deterrent to course interest or inclination to take the course online. Out of all respondents only five did not have a computer at work, and only two did not have a computer at home or work. Of the two administrators without current access to a computer, both responded that they were still "very interested" in taking the course. When asked about their inclination to take the course online, one was "less inclined" while the other said that it "would make no difference".

Furthermore, although one might assume that the older generation of administrators (55 and older) would be the **most** resistant to technology training online, actually the 36-45 age group showed the lowest inclination to take the course online. Nevertheless, neither age nor education levels affected course or online interest in a patterned relationship.

As would be expected, the more a public administrator used the Internet the higher their inclination to take the course online. Nevertheless, of the 40 percent of respondents who said they did not use the Internet well over half responded that they would still be more inclined to take the course if offered online. (See Table 4).

Table 4. Survey #1: The Relationship between Internet Use and Inclination to Take Course Online

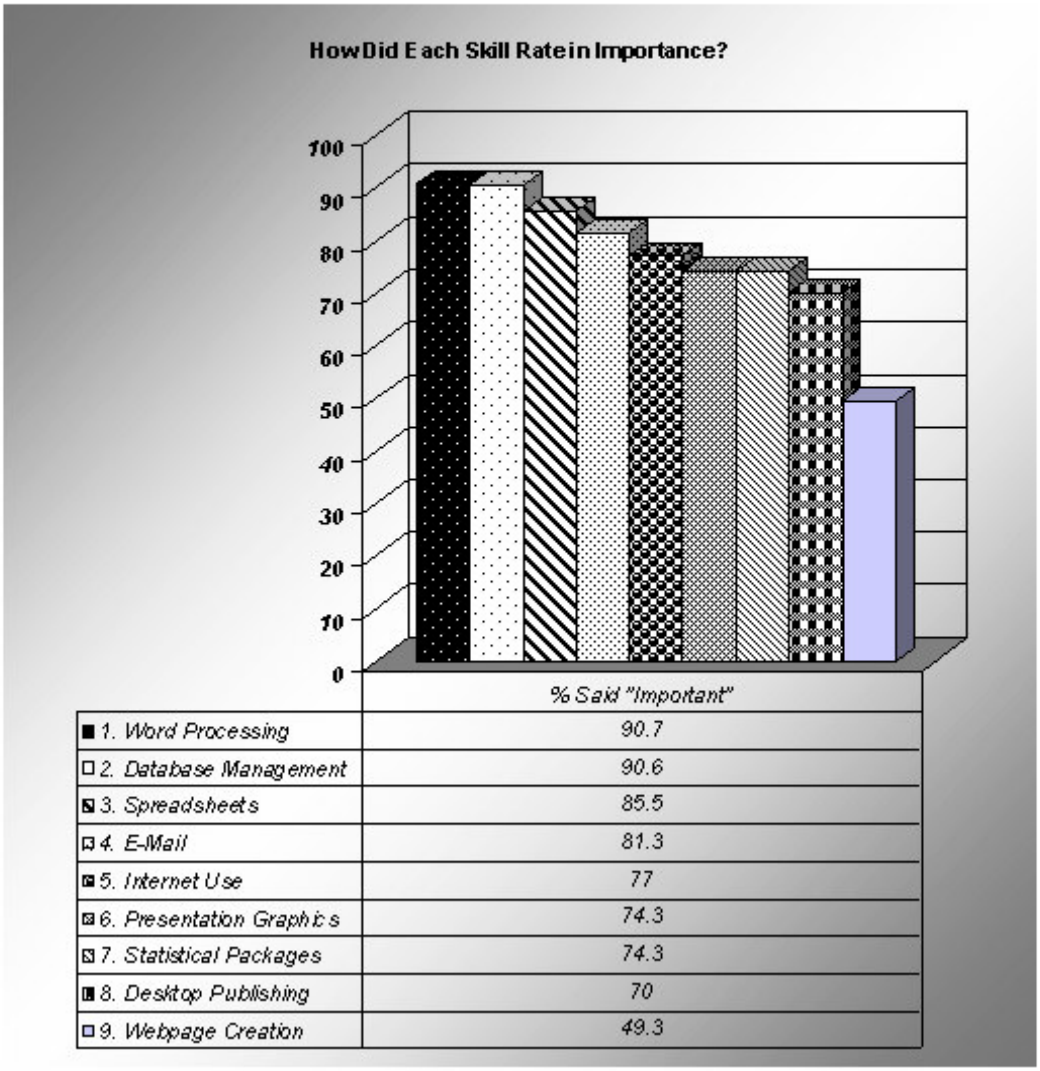
Level of Internet Use (# of responses)	Non-Internet Users (25)	Beginners (30)	Intermediate (15)	Advanced (5)
"Yes, I'd be more inclined	62.5%	83.3%	78.6%	100%

to take the course online."				
"No, I'd be less inclined to take the course online"	29.2	10.0	14.3	0
"No Difference."	8.3	6.7	7.1	0
TOTAL:	100%	100%	100%	100%

Assessment of Non-Students' Training Needs

All nine identified computer skills rated high in importance to public management in general. Even the lowest ranking skill, webpage creation, was found to be important to nearly half of all respondents. Word processing, desktop publishing, and spreadsheet management ranked as the top three skills important to a professional public manager. (See Figure 1).

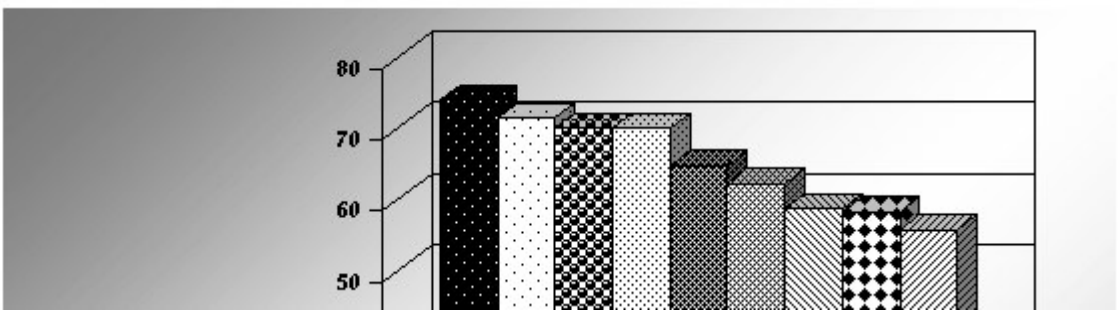
Figure 1. Survey #1: Importance of Computer Skills to the Occupation of Public

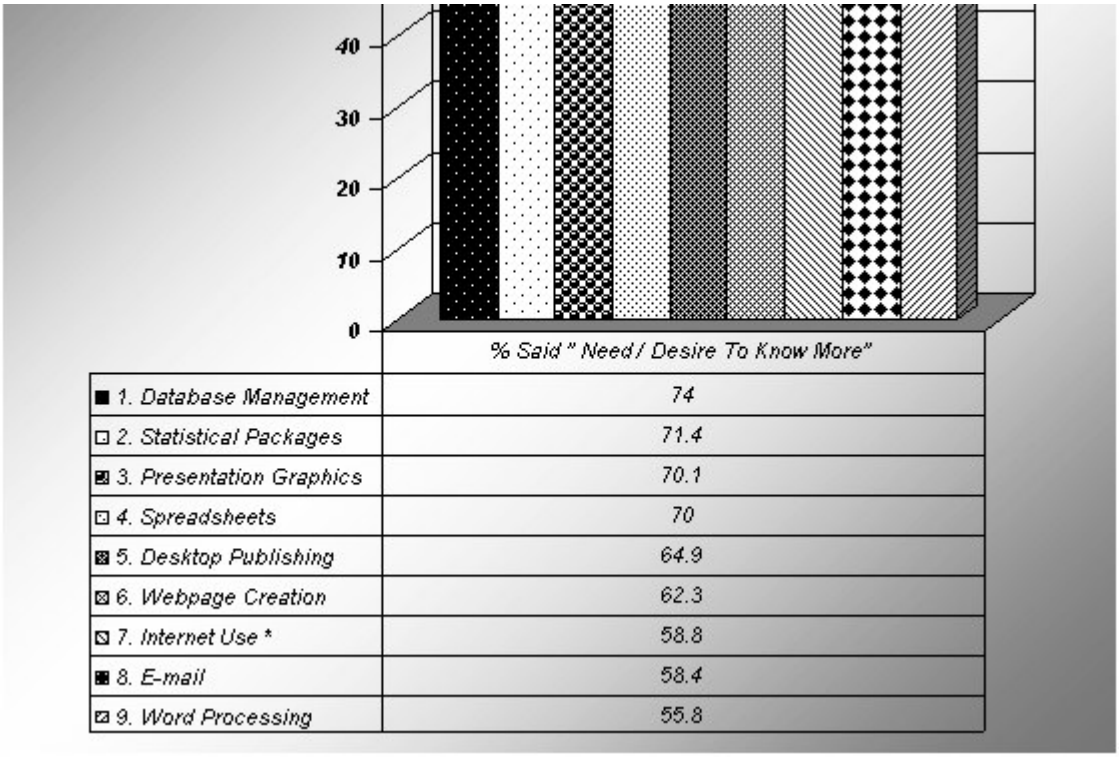


Administrator

Although 70 percent of all respondents had earned Bachelor Degrees or higher, the administrators displayed a high level of need for personal training in all identified computer skills. Over half of those surveyed reported a need to know more, even in regards to the lowest ranking skill, word processing. (See Figure 2).

Figure 2. Survey #1: Respondents' Need & Desire for Training in Each Skill





	% Said " Need / Desire To Know More"
1. Database Management	74
2. Statistical Packages	71.4
3. Presentation Graphics	70.1
4. Spreadsheets	70
5. Desktop Publishing	64.9
6. Webpage Creation	62.3
7. Internet Use *	58.8
8. E-mail	58.4
9. Word Processing	55.8

**Need for training in Internet Use compiled from survey question #4: "Non-Users" and "Beginners" counted as "need to know more".*

Though the information was not directly pertinent to the course content for the proposed MPA course, data measuring the training needs of lower level government workers was gathered as well. Respondents in the survey were asked to assess the training needs of their organization. As was expected, there was a higher need for computer utilization training among lower level workers. In nearly every case, 8 out of 10 government workers "needed to know more" about the technology skill in question.

In fact, 80 percent of administrators said, "yes, I would ask at least some of my workers to take a course highlighting some or all of the nine skills." That figure rose to 85 percent when the administrators were offered the online option. The exact numbers and distributions may be seen below in Table 6. Since it is assumed here that a portion of these lower level workers may desire to take the course for college credit, these numbers may reflect an untapped pool of candidates for the MPA program. Without further market assessment the exact numbers of possible enrollees will remain unknown.

An unintended result of this inquiry has led to the discussion of developing a second, non-credit technology training class, specifically designed to emphasize the slightly different needs of lower level government workers. In particular, a state training officer for the Georgia Forestry Commission has pledged 500 statewide participants if just such an online course could be implemented.

Table 6. Survey #1: The Number & % Distribution of Possible Course Candidates

Approximately how many coworkers would each P.A. ask to take the course …	**if the class was offered on campus? % (N=)**	**if the class was offered online? % (N =)**

Responded "1-5 workers"	66.1% (37)	58.3% (35)
Responded "6-10 workers"	16.1 (9)	21.7 (13)
Responded "11-15 workers"	5.4 (3)	5.0 (3)
Responded "15 or more"	12.5 (7)	15.0 (9)
TOTAL:	100.1% (56)	100% (60)

As for the professional public administrators themselves, 17 respondents said that they would take the proposed course as a college credit course while another 11 remained undecided. This pool of potential candidates could represent a substantial boost in enrollment for the MPA program at the State University of West Georgia (See Table 7).

Table 7. Survey #1: Response to Credit versus Non-credit Option

Response	# of responses	% of total responses
"College Credit"	17	25.7%
"Non-credit "	38	57.6
"Don't know "	11	16.7
TOTAL:	66	100%

In the end, 97 percent of initial target respondents actually participated in the survey. In addition to responding themselves, 19 participants referred surveyors to other administrators that they felt would be interested in the project. The perception of surveyors conducting the survey, as well as my own qualitative assessment, concluded that most survey participants were genuinely interested and excited about the proposed course.

MPA Student Survey #2: Characteristics

During September and October 1997, a written questionnaire was distributed to all 23 Master of Public Administration students attending fall classes. The survey asked for much of the same quantitative and qualitative information as the professional public administrator survey. The document may be reviewed in Appendix III.

Response rate was extremely high, with all but one student participating. There were 13 females and 9 males in the survey, with nearly 20 percent of the respondents over the age of 35.

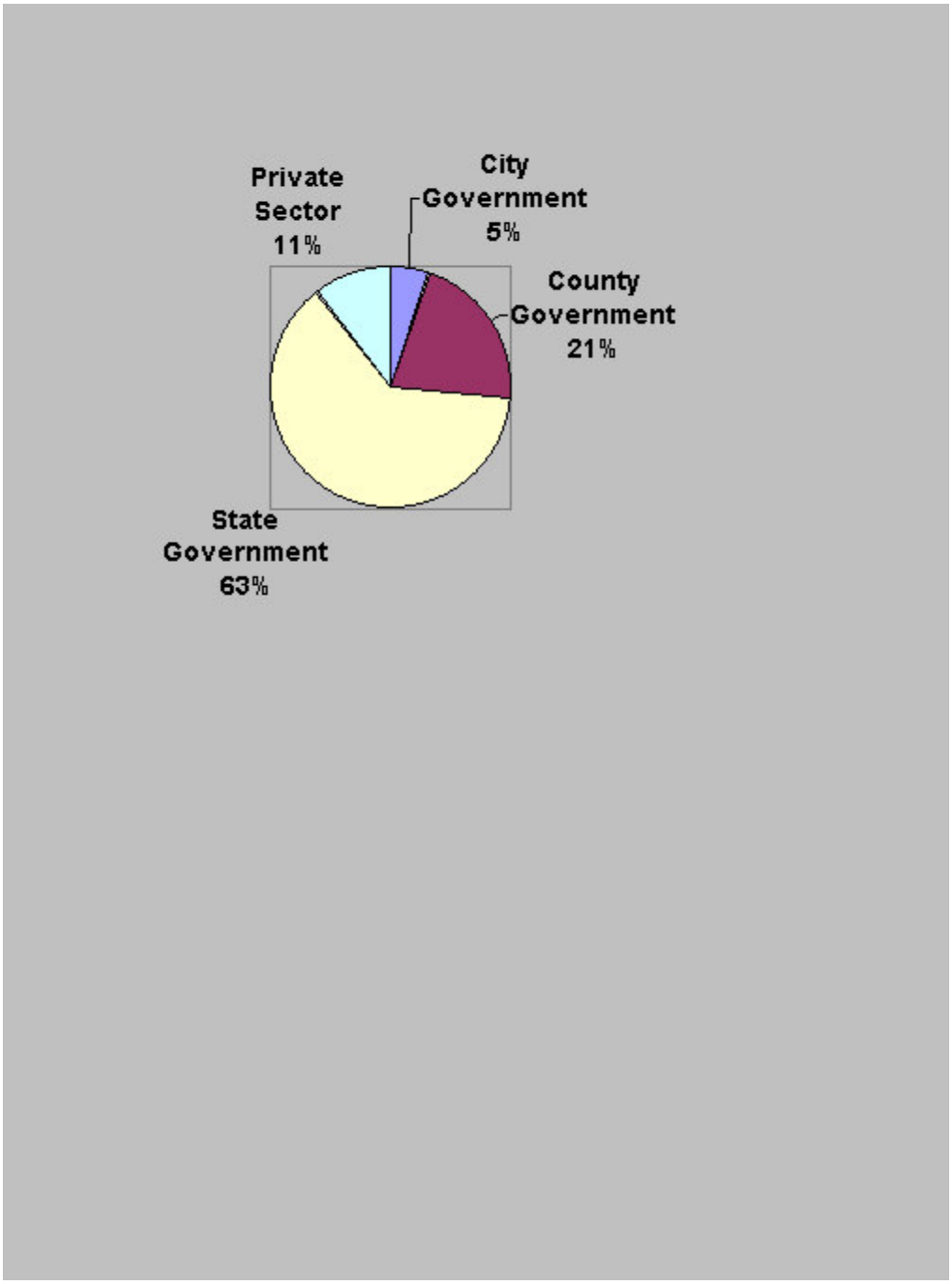
Seventeen out of twenty-two students have a computer at home. Only two of the employed students did not have access to a work computer.

While three students were classified as unemployed, a large majority of MPA students already work in the public sector. The occupational distribution of the employed graduate

students revealed a considerably high percentage of workers from the state level of government. This information may be useful for future recruitment of students into the program. (See Chart 2).

Chart 2. Survey #2: Occupational Distribution of MPA Students

Major Findings of the MPA Student Survey # 2



Students' Course Interest

Although course interest was extremely high in all respects in both surveys, as might be expected, students showed a slightly higher interest in taking the course in general.

Though more than half of the students responded that they would be "more inclined" to take the course

if offered online, their inclination towards online learning was not as high as non-students in survey #1. In fact, the rate of students who were "less inclined" to take the course if offered online was double that of the non-students surveyed by phone. Though the numbers were small, the lack of access to a home or work computer counted for half of the student's negative responses to the online option while lack of Internet experience helped account for the rest. (See Tables 8 & 9).

Table 8. Comparison of Student Interest in Course to Non-Student Interest

General Course Interest	student % response rate (N =)	non-student % response rate (N =)
"very interested"	77.3% (17)	45.5% (35)
"somewhat interested"	18.2 (4)	39 (30)
"not interested"	4.5 (1)	15.6 (12)
TOTAL:	100% (22)	100% (77)

Table 9. Comparison of Student Inclination Towards Online Option to Non-student Inclination

Inclination to Online Option	student % response rate (N=)	non-student % response rate (N=)
"yes, more inclined"	59.1% (13)	76.7% (56)
"no, less inclined"	27.3 (6)	16.4 (12)
"no difference"	13.6 (3)	6.9 (5)
TOTAL:	100% (22)	100% (73)

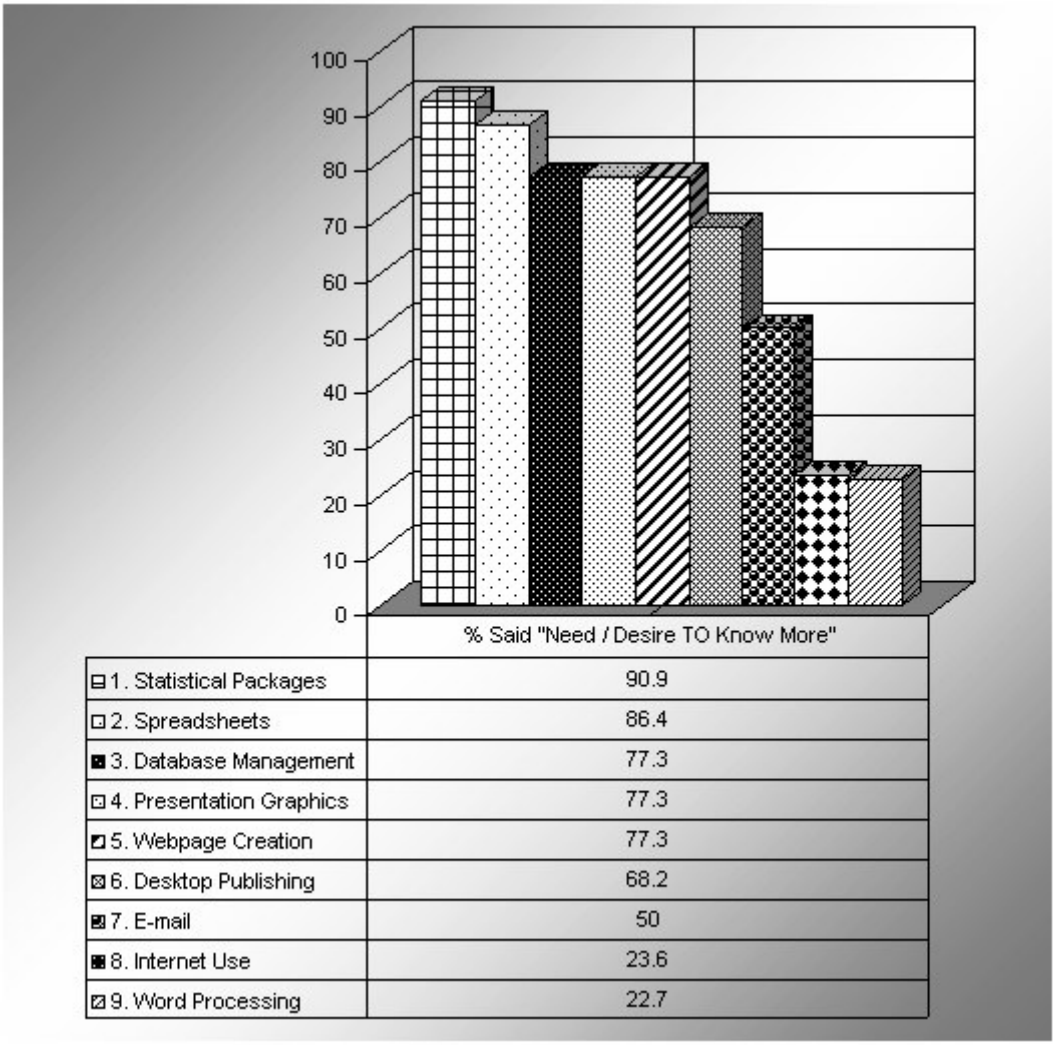
Assessment of MPA Student Training Needs

When rating the importance of all nine computer skills to a public manager, the students placed higher

value on computer utilization skills than did the non-students. In fact, a complete 100 percent of student respondents felt that word processing, desktop publishing, e-mail, database management, presentation graphics and spread sheet knowledge were important to today's public administrator. Nine out of ten students judged both statistical packages and Internet utilization important. Meanwhile, 70 percent thought that webpage creation was valuable as well.

Although the average MPA student had been enrolled in graduate school for five quarters, the lack of computer skills was extremely high (See Figure 3). In comparison, the MPA students reported 4 out of the same top 5 skill deficiencies found in the non-students in survey #1.

Figure 3. Survey #2: Students' Personal Need for Training



	% Said "Need / Desire TO Know More"
1. Statistical Packages	90.9
2. Spreadsheets	86.4
3. Database Management	77.3
4. Presentation Graphics	77.3
5. Webpage Creation	77.3
6. Desktop Publishing	68.2
7. E-mail	50
8. Internet Use	23.6
9. Word Processing	22.7

The Course

Overview

Due to the critical lack of technology training found among MPA students and public administrators surveyed, a pilot online "Computer Utilization for Public Managers" was offered beginning in January 1998. The course has been being implemented, designed, and marketed based on the assessments' recommendations,

In order to meet the changing demands of nontraditional students, the needs of working public administrators in the area, and the goals of the MPA program and the institution, the course is being offered online. The web-based computer training software, known as WebCT, provides the structure, interactivity, and educational management tools for the class. WebCT, originally designed by the University of British Columbia, is currently endorsed as the online delivery vehicle of choice for all online classes at the University of West Georgia.

Facing the challenge of trying to teach computer skills via the computer, it was necessary to conduct an on-campus orientation for the classes first meeting. All students were asked to attend the mandatory 6-hour Saturday session. The orientation served to familiarize the class instructors with the students' various levels of computer proficiency and needs, as well as their access to the minimum technology requirements necessary to access the class. Participants who did not have the minimum hardware necessary to access the online course were familiarized with the free campus computer labs and hours. Although the instructors were prepared to possibly direct distant students to libraries and other off-campus facilities with computers, the need did not arise. Ultimately, the goal of the orientation meeting was to give students the opportunity to receive one-on-one assistance in basic computer skills and to let the students meet.

The course content has been based on a culmination of both the training needs of the target market as well as the existing MPA students. Due to time constraints the course is comprehensive, highlighting the basics of only the top five needs of both groups: word processing, database management, spreadsheets, presentation graphics, Internet use, e-mail, and webpage creation. In addition, technology topics such as ethics and how computers can be used to provide more efficient and accountable public services.

The most important thing to note is that the course is specifically designed to meet the unique needs of administrators in the public realm. For example, participants are not simply taught how to perform an Internet search in general, emphasis is placed on how to search for government resources and grant information available on the Web.

Using WebCT, the online "Computer Utilization for Public Managers" is organized around one main homepage containing links to course content elements and links to course tools. In this way, elements are made accessible through clickable icons chosen by the course designers. The class has four such content icons; "Syllabus", "Course Notes", "Concept Computer Modules", and "Weekly Assignments" (See Table 10). The course is divided into 10 weekly sessions. Students are required to read the course notes provided on a weekly technology topic, work through corresponding training modules on the topic, and complete an assignment by the week's end.

In addition, there are eight accessible tool icons used to facilitate the delivery of the course. The course tools are features supplied by the WebCT that, when added by the course designer, automatically perform bulletin board, chat room, or other interactive applications. The table below illustrates each icon and its function on the "computer Utilization for Public Managers" course homepage:

Table 10. Available Online Course Tools and Their Functions

Icon	Function

	Provides access to lectures discussing computer concepts associated with weekly technology topics
	Summarizes daily events or assignments due; students may also post their own private messages
	Weekly course assignments to be completed
	Provides access to four chat rooms for use for real-time class discussions, and one chat room accessible by all WebCT students at UWG
	Allows students to change their own password. WebCT classes are password protected.
	Allows students to view their own grades & shows grade distributions within the class
	Provides link to the most basic of class information: the syllabus.
	Provides students with access to course notes, including images and links to related web sites
	Access to course conferencing system; used for communication among all participants. Embedded URLs are automatically linked to WWW
	Allows for communication among only those selected class participants
	Links glossary terms to alphabetical definitions
	Presents pictures taken during class orientation;

pictures	helps create a better sense of community among distant students.

Tutorials on the various technology skills taught were delivered using a variety of instructional technologies. While written instructions were given for e-mail, the Internet, and database utilization, a Powerpoint presentation was incorporated into the class to demonstrate presentation graphic skills. In addition, supplemental training tutorials were provided on CD-ROM, to assist in fully illustrated step-by-step instruction (Padgett & Miller). Though these modules were developed for use in teaching word processing and spreadsheet utilization to business students, the class exercises were edited and customized to meet the immediate needs of our public administration students. A reference guide to Internet sources was the only required textbook. Although the course is still underway at the writing of this paper, the following summary outlines the class activities as they have occurred since the first week and as they are expected to be conducted through mid-March:

Summary of Weekly Activities and Assignments

As discussed earlier, the initial week's class was conducted on campus in a computer lab. During this session, students were polled as to their basic knowledge of computers. Though a few students were computer literate and two had never touched a computer, most participants fell somewhere in between the spectrum. Students were introduced to basic operations of Windows 95, the Internet, and the course management tool, WebCT. Students were able to spend the last hour beginning their week one assignments. Examples of week one assignments were sending an introductory e-mail message to every member of the class; and sending e-mail to President Clinton expressing support or opposition to a current issue.

During the second week, the students were further introduced to the World Wide Web, its history, usage techniques, and implications for public organizations. The primary assignment for the week was to conduct an extensive web search on a particular topic of interest to public administrators. Students submitted brief reports on their research and the corresponding URLs. During this week, students began participating heavily through the bulletin board, and discussed the impact the web has had on society and our culture. Students also used the board to help each other with technical problems and for socialization purposes.

For many, week three was the most demanding because of extensive readings linked from the course notes pages. A portion of the readings and assignments introduced students to computer components and modules, but the more time-consuming activities were geared toward readings and discussions of the impact of computers on the role of the public manager. Students were also to take the role of a public manager responsible for purchasing a statistical package. Students searched the web for information about various packages and e-mailed their recommendations and justifications for selecting a particular package. During this week, some of the students complained that the readings and activities were too time-consuming. The instructor pointed out that they should use the time that they would have spent in a weekly class meeting (5 hours) to complete their readings.

During the next three weeks, students were introduced to specific software including word processing, spreadsheet, and database software. Among the assignments participants were asked to create a resume and a letter to a congressman using a word processor. Spreadsheet assignments included setting up automated payroll calculations for employees and a line-item budget.

During the sixth week, students learned basics of Microsoft Access (through an on-line written

tutorial), and set up simple databases of employees. Students were asked on the bulletin board during this time whether or not their course expectations were being met. Nearly all replies were very positive.

The seventh week was expected to be the most exciting (still upcoming at the time of this article). Students were to be given several scenarios of ethical dilemmas involving technology that a public manager might face. The scenarios were to be posted on the bulletin board, and argued by the students on the bulletin board. Also, three 30-minutes chat sessions were set up to allow for instant dialogue on issues of e-mail privacy, information privacy, and hacking. Beyond required participation on the bulletin board and in at least one chat session, students were to turn in (or e-mail) a three-page paper on a computer ethics topic of their choosing.

The eighth week was scheduled for presentation graphics. After completing an on-line PowerPoint tutorial, students were to create a 16-slide presentation about a particular topic (history, goals, technology plan) of their organization. The final on-line week was to be used as a time for preparing to create an organizational web page. During this week, students were to evaluate various web pages created by municipalities and government agencies. Then they were to create a complete plan for their own organizational web page, including definition of target audience, distribution of responsibilities for maintaining the page, outlines, and planned links, elements, and interactive forms.

For the tenth and final class meeting, students were to return to the computer labs. At this meeting, students were to take a short written examination that would cover basic topics from the readings of each week. The final would account for 20 % of their grade.

After completing the final, the students were to receive instructions about creating a web page. The final two-three hours were to be spent on the actual creation of the web pages. This final, culminating project accounted for 10 % of the students' grades.

Accordingly, weekly projects counted for 50% of the students' final grade, while participation accounted for 20%. Participation was measured by the amount of time students spent on the bulletin board asking questions, commenting, reflecting, or helping others. A useful feature of the WebCT software is that it allows the instructor to track a student's participation. The instructor can not only tell how many times a student has accessed any particular section of the course, but the last time accessed and the amount of time spent. This feature was used not only for grading but to identify students who might be falling behind. If a student had not logged on for many days, he or she was given a call or e-mail by the instructor or class assistant.

Due to the high level of interest, the pilot course was offered both as a credit and non-credit option. Though combining these sections within a traditional course setting may cause concern for the credit students, this is not a factor in online delivery since each student has the opportunity comment simultaneously in a forum that is not restricted by time. In fact, MPA students seem to be gaining a wealth of knowledge from the more experienced practicing administrators who showed the highest inclination to the non-credit option.

Overcoming Barriers

Analysis of innovative options, such as the online delivery of this course, should consider implementation feasibility (Hatry 102). There are many barriers that had to be considered before conducting the "Computer Utilization for Public Managers" online class. The following recommendations attempt to overcome barriers to the successful continuation of this class at UWG and its replication on other campuses:

Additional Time Commitment:

Due to the need for training and the need for redesigning of course content to fit the forum, the development of an online course initially takes more time commitment than a traditional class. However, as the professor becomes more adept at online delivery, his or her need to spend time training will dissipate. Also, once the course is designed, the course content need only be updated each consecutive quarter. Therefore, the same time that a professor in a traditional classroom would have devoted to preparing for each class lecture may be better spent interacting with each student on a more personal basis. In this way, many professors have concluded that online delivery eventually takes less course preparatory time than a traditional class setting, gives the professor more flexibility, and allows much more time for teacher /student interaction (Padgett & Miller Interview). Still, in order to minimize the initial time commitment, student assistants currently available from the UWG Distance Learning department were utilized in preparing the course for online delivery and class enrollment was limited for the class's inaugural run.

Resistant Attitudes towards New Technologies:

For many professors not adept at using computers, the thought of teaching a course online could be disconcerting. To facilitate the transition, faculty on our campus will be encouraged to take advantage of free training provided by the Distance Learning department and other institutional entities. For these professors, as well as the wary "traditionalists", there may be a need for further incentives to teach online. Incentives could include recognition for a faculty member's commitment to innovation, with opportunities for tenure and salary increases.

Accreditation Issues:

Although applicable accreditation bodies have not yet formalized policies specifically regarding the online delivery of courses, it is best to monitor the effectiveness of online classes in case the quality standards mandated by such agencies should ever come into question. The UWG Graduate School and Registrar's office have decided to count all online classes as "on-campus" courses, in an attempt to head off any problems in accreditation that might occur in the future, in addition to financial aid and other issues (Smith).

Technical, Logistical and Support Concerns:

To minimize the chance of technical or logistical problems, the first class meeting was held on-campus for student training of online course delivery procedures, basic computer usage, and the evaluation of students' skill levels and needs. The professor made certain that every student had access to Office '95 or Office '97 for Windows, as well as the computer equipment necessary for online course performance. If the student did not have personal access they were given access to computer centers on campus or directed to local libraries and off-campus centers. The Distance Learning Help-line was introduced, as well as other help resources. Problems associated with registration, getting student ID cards, textbooks, etc. were also addressed during this first class meeting.

Pedagogical Issues:

In order to maintain a high quality of instruction and interaction, steps such as limiting course enrollment and rewarding class participation, were taken. Monitoring, self-evaluation, and interactive tools provided by WebCT online delivery software were utilized. These tools will provide a concrete record of accountability not as easily accessible in a traditional class setting. One way to monitor effectiveness will be to compare the informal assessment of student skill proficiency and student class expectations at the beginning of the class to the same assessment conducted at the end of class.

Although test security issues are always a concern in distance education, as well as in the traditional

classroom, there are steps that have been taken to address the problem. Options included conducting the comprehensive final exam on campus, having students sign an honor code pledging honesty, and grading based on participation, written assignments, and a final project submitted.

Finally, both the problems and the successes associated with the course will be recorded and the course reevaluated and redefined annually. In addition, enrollment figures will be monitored, over a three-year period, to see if the expected initial rise in program enrollment is sustainable.

Cost-Benefit and Cost-Effectiveness Considerations

Cost is a key issue for any proposed change in program implementation (Axelrod 2). Since the one purpose of delivering the course online is that students may take the class from the convenience of their own computers, less university infrastructure resources are being used. Therefore, it is assumed that this forum will prove more cost-efficient for the institution than delivery by traditional means. Though there are cost concerns such as the increase in personnel resources, faculty time, training, Internet use charges, and support services, it is believed that the future increase in enrollment will more than offset these costs (Hill). Since the course is still in session, cost-benefit and cost-effectiveness, however, cannot be accurately assessed at this time.

Nevertheless, the university's decision to endorse the use of online course delivery in general has been based in part on informal cost-assessment discussions conducted by the UWG Online Steering Committee as well as evaluations conducted by other institutions utilizing the Internet forum (Hill). For example, the for-profit University of Phoenix has concluded that it costs them $237 to provide one credit hour online, against $486 per hour of conventional education at Arizona State (Gubernick & Ebeling 4).

Though opinions vary about the quality of education delivered online, the majority of studies seem to show that online education is at least as effective, if not more effective, than traditional delivery means (Khan 59-65). The deciding factor, however, may be the student's orientation to learning; there is no doubt that an online student must be more motivated and disciplined than the traditional student.

Implications for the Future

Although research has shown a lack of computer utilization skills by public administrators, I have found very little evidence that any MPA program in the United States has adjusted its curriculum to meet this emerging need adequately. Though computer utilization courses are sometimes offered as electives, the course content is non-comprehensive and generic in nature. More importantly, the only such course found as an online option, concentrates primarily on the skills of webpage building and PowerPoint utilization (Garson).

Since the UWG course would provide both the comprehensive content and the delivery system most beneficial to the working public administrator, it is believed that the course could have far-reaching effects. If the course is successful at meeting its goals of providing quality education and boosting enrollment, other institutions may replicate the course. In line with the new paradigm in education, curriculum design may become more client-need based than traditional faculty driven.

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