

The University of Southern
Mississippi

Faculty Technology Survey

Faculty Responses on the Status of Technology at
Southern Miss



March 2001

Executive Summary

In the Fall, 2000 semester, an *ad hoc* committee of Southern Miss faculty and staff conducted a survey of 884 faculty and administrators regarding faculty's use of technology. The survey was designed to provide evaluation data for existing technology grant projects, to develop needs assessment data for future grant proposals, and to inform administrative decisions regarding support for instructional technology use at the University. The return rate was 30.3% (268 surveys).

The survey instrument gathered demographic data on department, age, academic rank, gender, and Professional Education Faculty status. Survey questions focused on faculty perceptions of the current state of technology services and support on campus; faculty attitudes towards the use of instructional technology in general and specific applications in particular; and faculty perceptions of barriers that inhibit their use of technology and of resources they need to further implement instructional technology in their teaching.

Faculty responses show some variation among colleges; however, an analysis of the data revealed that, overall, faculty agree that the state of technology on the various campuses does not currently meet their needs. The most significant barriers to faculty's use of the technologies are identified as (1) lack of technology in the classrooms; (2) lack of incentive programs; (3) lack of funds to purchase software; (4) lack of on-site (classroom/lab) support; and (5) lack of necessary hardware. Faculty are clearly using more technology than they were two years ago. Most of them do not consider lack of knowledge or training as a significant deterrent to their use of technology, though 40% of them indicate that they could use more training.

Faculty identified as priorities five specific technologies needed in classrooms: computer projection capability; an instructor's computer station; internet access; network connections; and student computers. Technologies that faculty are most likely to use if they could obtain support and/or service include email lists of students; multimedia presentations; the web to support research; audio/video clips, animation, or slides; the web for on-line materials archives; and a web page with course materials.

Based on the survey data analysis, the following recommendations are made:

1. The University should address the need for incentives for faculty to invest their professional energies in learning to use technology and revising their instruction to incorporate appropriate technologies. In particular, consensus should be reached regarding instructional technology's place in the tenure and promotion expectations.
2. Because support for many of the technologies faculty would like to use is already available, there is a need for additional marketing, training, and technical support to increase the use of these existing technologies.
3. The University should focus its resources first on meeting the need for technology access at the classroom level, considering the faculty's priorities of projection capability, instructor and student stations, and internet/network access.
4. Because this survey focused on faculty, similar surveys should be conducted to address staff, administration, and student technology concerns and issues.

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Purpose and Methodology

Purpose of the project

In August, 2000 an *ad hoc* committee of Southern Miss faculty and staff (composed of Mr. Eddie A. Williams, Dr. Susan Malone, and Dr. Lin Harper) began meeting to discuss the availability of information related to the faculty's use of technology in the educational setting. This data was needed to provide information to external funding agencies for existing grants, as well as to support the anticipated grant applications that would be prepared in the near future. The individuals working on the committee already had hearsay evidence regarding the status and perceptions of technology throughout the University, but only a formal analysis would determine the overall state of technology on the campus.

Methodology

Since one of the requirements was to determine factors associated with the PEF (Professional Education Faculty) regarding a PT3 (Preparing Tomorrow's Teachers to Use Technology) grant already in place, the committee developed a questionnaire that would meet the needs of several projects.¹ The Center for Research and Support at Southern Miss assisted in a review of the instrument, and a total of 884 questionnaires were mailed out to faculty and educational administrators on all campuses of the University. The Provost agreed to include a letter encouraging participation in this important project; a total of 268 usable surveys were returned (for a return rate of 30.3%). The Center for Research and Support scanned the data into a file that was analyzed utilizing SPSS.

The survey requested demographic data in the following areas: home department, age, academic rank, and gender. Although the questionnaire was designed to be anonymous, a large number of respondents did include their names on the Scantron sheet; this data was considered irrelevant for the purposes of the survey and was not collected. Some of the respondents chose not to reveal their age, as evidenced by 34 people not completing this item. A total of 36 people chose not to indicate their department and 31 did not indicate their rank; 33 people chose not to reveal their gender.

¹ This survey was modeled on a similar instrument developed by Carl Berger at the University of Michigan; see <http://www.itd.umich.edu/~cberger/#Survey> A copy of the survey used at USM is included in Appendix C of this report.

Breakdown of Responses

With an acceptable level of return, the committee believes that reliable information can be obtained from the survey. Although 31 respondents (11.6%) did not include their rank, there was a good distribution of responses from all ranks.

Table 1: Summary of Responses by Academic Rank

Rank	Total Number Responses	Percentage Of Total Responses (N=268)
Blank Responses	31	11.6%
Instructor	36	13.4%
Assistant Professor	73	27.2%
Associate Professor	58	21.6%
Professor	70	26.1%

Regarding departmental affiliation, 248 (92.5%) people did respond to this question, with only 20 (7.5%) respondents not supplying usable information. Several faculty members did contact the committee to indicate that they were from very small departments, sometimes with only 3 members, and wanted to retain their anonymity; supplying any demographic information would reveal their identity. For purpose of summarizing data, the individual departments/areas were assigned to the appropriate college and the following tables indicates the distribution of responses:

Table 2: Summary of Responses by College

College	Number Of Respondees	Percentage Of Total Respondees(N=268)
Blank or Undetermined	20	7.5%
Arts	15	5.6%
Bus Admin	27	10.1%
Ed Psy	36	13.4%
Lib Arts	66	24.6%
Sci /Tech	51	19.0%
HHS	26	9.7%
IntCont	5	1.9%
Honors	1	.37%
Nursing	21	7.8%

Summary of Responses by Age

Before developing the survey, the committee wanted to determine if there was a correlation between rank and/or age and technology issues. The committee realizes that there is no guaranteed direct correlation between age and rank, as some faculty members may have a rank of instructor and be close to retirement age; likewise, some faculty members may not advance beyond the level of associate professor. There is a general, overall tendency, however, to advance to upper levels as people continue to develop in their careers over time. A total of 249 people did indicate their age, with only 19 not responding to the question, so the committee believes that the age data should be statistically valid. The mean age of respondents was 47.28, with a minimum of 26 and a maximum of 70. Although the data is available for further analysis, the committee did not see any major differences associated with the age of respondents.

Table 3: Age Distribution

Age	Frequency	Percent Of Total N=268)	Valid Percent Of Total (N=249)
21-30	13	4.85	5.22
31-40	56	20.90	22.49
41-50	79	29.48	31.72
51-60	78	29.10	31.32
61-70	23	8.58	9.24

Table 4: Summary of “NO” responses

Item	Number	Percentage Of Total Responses
Age	19	7.1%
Department	20	7.5%
Gender	33	12.3%
Rank	31	11.6%

Note on interpreting the scores

According to the grouping of the information, mean scores on specific questions and percentages will vary slightly. In some cases a respondent would indicate age, but did not provide information on rank. When the data is analyzed or grouped on age, that particular questionnaire sheet *would* be included in the data; however, when the information is grouped by rank, this information is *not* included since the person failed to indicate rank. Similar differences will arise when looking at data grouped by gender, college, and Professional Education Faculty status.

The survey results were tallied based on a scale of 0-5:

- 0 Not Applicable
- 1 Strongly Disagree
- 2 Somewhat Disagree
- 3 Neither Agree or Disagree
- 4 Somewhat Agree
- 5 Strongly Agree

Most of the questions could be answered utilizing the 1-5 portion of the scale and scores of "0" were excluded from the data analysis; for interpreting most of the data, a score of 3.0 should be considered the middle of the range. A copy of the survey is included in Appendix C of this report.

Faculty Perceptions and Attitudes

Faculty Perceptions of the Current State of Technology

It should be emphasized that the survey results are a mixture of a *perceived* state of technology services and support, and what actually exists. In some situations faculty may have developed a preconceived concept of the state of a specific technology component that is quite different from actuality. *Overall, the faculty are in agreement that the current state of technology on the various campuses is not meeting their needs satisfactorily.* In cases where the technology does exist and support is available, there is an opportunity for further marketing of services by the Office of Technology Resources (OTR) and its educational partners; in cases where there is a shortage of technology and related support, an opportunity exists for further evaluation and planning for future implementations.

One of the overall questions regarding technology, Question number 1, “There are no barriers to my using the applications and media I would like to use” elicited a response of 63% in disagreement. Question number 10 on the survey, “I do not use the applications/media I would like to use because the technology is not available in my classroom” scored rather high with 67.7% in agreement. A total of 73.9% indicated that the lack of incentive programs (Question 15) impeded their use of technology. These clearly defined responses indicate that there is a general dissatisfaction with the current state of educational technology available and the lack of incentives to incorporate it into the curriculum.

Currently, there are twelve classrooms with permanently mounted projection equipment and 25 portable units are distributed throughout the various departments (see Appendix B for additional information on equipment). To supplement the equipment already located in the various areas, Equipment Services in the Instructional Media Unit supplies a total of 11 data/video projectors that are in high demand and are almost always loaned out. Recently, a number of data projectors were purchased to replace aging equipment that is no longer compatible with newer computers. Also, OTR recently purchased an additional 10 laptop computers to supplement the existing pool, which is always checked out.

Although the University has made a considerable investment in providing data/video projectors and other equipment, the availability of the technology is not currently meeting the majority of needs; the number of permanently equipped classrooms, especially, is not sufficient to meet existing needs. In several areas, for example, if faculty desire to use a teaching lab configuration, a public student lab must be closed during those timeframes.

A number of departments have been able to create teaching labs through the creative use of departmental funds and through outside funding sources. In many cases this equipment is now beginning to age and is incapable of running the more robust applications that are becoming necessary for instruction. In almost all cases, these labs were created with one-time monies and a refurbishment plan is not in place.

Faculty Attitudes Towards Technology

A number of attitudinal and self-assessment questions were posed on the survey. In exchanges on campus listservs and other forums, there have been some outspoken faculty members who have indicated a less than willing attitude to embrace technology in support of instruction. The survey data would indicate that this lack of faculty support for educational technology is minimal and does not reflect the mainstream faculty.

When faculty were asked if they do not use the desired technology because of a lack of time (Question 2) they scored a 2.96², almost exactly between disagree and agree. When responses based on percentages are considered, 48% agree that they need more time in order to utilize technology. When asked if lack of use was caused by it being too much trouble (Question 13) the answers were clearer, with a cumulative score of 2.38. When asked if they did not use the desired technology because of lack of knowledge/training (Question 3), the cumulative score was 2.00; these scores indicate that faculty are quite assured of their knowledge of technology and are ready to use it. Indeed, answers to question 16 ("I am better able to use information technology now than I was two years ago") received almost the highest "agree" score of the entire survey (4.12).

Although the questions on the survey covered most of the well-defined areas of educational technology, the survey did not propose guidelines regarding what constitutes instructional technology. For some people, technology may consist of a PowerPoint presentation; for others, it could involve interactive video and/or streaming video; for some it could be web-based courses. Although a skills assessment of the faculty has not been conducted, from their responses the faculty appear to be comfortable in utilizing the technologies which they have encountered in their specific disciplines. Also, it should be emphasized that certain technologies work better within certain disciplines and content areas; in the following chapter on defined needs, the areas the faculty consider to be important will be highlighted.

Gender Differences

In the area of gender, the responses were as follows: male: 134; female: 101; no response: 33. With 18 questions there was a significant difference on the "2-tailed scale" in the SPSS analysis of the data; a score $\leq .05$ was used to determine the level of significant difference between males and females. In general, women believe that there are greater barriers to their using technology, while at the same time they indicated they were more prepared and ready to utilize a number of the different technologies.

Although there were no significant differences in faculty attitudes based on age, there were some significant differences based on gender. The following questions indicated a difference of $\leq .05$ on the SPSS Independent Samples Test, grouping by gender: 1, 11, 26, 27, 28, 34, 38-45, 47,49, 50, 52.

Females were more resolute than males in their belief that there were barriers to their use of technology (Question 1) and that the applications and media were not running on the machines in the computing sites (Question 11). Females indicated a greater desire to use electronic pointers, student computers, and an instructor's computer station (Questions 26-28.)

Compared to males, females believed that they were better acquainted with IT resources on campus (Question 34) and would be more likely to utilize the following technologies in their classes

² Scores range from 1 (Strongly Disagree) to 5 (Strongly Agree).

(Questions 38-45): e-mail lists of students in classes; electronic bulletin boards/forums; audio/video clips, animation, slides; streaming video; self-paced practice and tests of routine tasks; computer simulations; self-paced tutorials; multimedia presentations. Additionally, females were more likely to utilize the web to conduct simulations and visualizations; use the web facilitate collaboration with people at USM; and use the web to gather information via on-line quizzes. (Questions 49, 50, and 52)

Defined Overall Needs

The responses to a number of questions were *clearly indicative of faculty concerns and needs*. In some cases the cumulative scores are quite meaningful, and in others, the percentage of people in either agreement or disagreement provide insights.

Training (Question 3). Although many faculty members feel comfortable utilizing the new technologies, 40% indicated that they could use more training. Many of the new technologies, especially web-based courses, are not easy to master and the committee believes that once faculty undertake the integration of the various technologies, especially those currently emerging, that on-going training will be essential for effective usage.

Technical support (Question 4). At face value the cumulative scores would not indicate any problems (3.06), but the percentage of responses indicating that lack of support hindered their use of applications/media measured 42.3%. From a service point of view, a score of 40% would indicate some potentially major problems and a well-defined need for additional technical support or more appropriate marketing of existing support services.

Classroom/lab on-site support (Question 5). A majority of the faculty (58%) believes that the lack of this type of support is hindering their ability to utilize technology. Again, the faculty believe that they have the training and knowledge to use the applications but lack the support and resources to make it effective.

Need for upgraded hardware (Question 9). A majority of the faculty (54%) believes that they need to have upgraded hardware in order to incorporate technology into the curriculum. Most purchasing decisions are made on the departmental level and there is not a current database of information that would reveal the actual distribution of hardware assigned to instructional purposes throughout the University. Since the life cycle of technology is quite short, the committee believes that this perception of need is probably valid.

Lack of technology in the classroom. Questions 10 and 20 received some of the highest scores, with 67% of the faculty indicating that the lack of technology in their classrooms prevents them from using the applications/media that they would like to use. When asked if the technological facilities needed in classrooms are present, 78.4% indicated that they did not have what they need. When asked if they had attempted to reserve a multimedia classroom during the past year (question 29), almost 62% indicated that they had not done so. In other areas of the survey, faculty gave indications that they wanted to utilize technology but the lack of availability prevented them.

Software costs (Question 14). Lack of departmental funds to pay software costs received a score of 62%, indicating that to the majority of faculty this deficit hinders their incorporation of technology into the curriculum.

Lack of incentive programs (Question 15). This question elicited the highest score (3.91) of any question on the survey. Almost 70% of the faculty expressed that the use of technology in

improving education was not included in the evaluative factors for tenure and promotion and that there were no accommodations to support their efforts, i.e., release time and financial rewards.

Accessibility (Question 18). Regarding access to computing resources from departmental offices, the answers were evenly distributed across the spectrum. When asked about access from their homes, faculty clearly indicated that they could not access resources from their residences.

Availability of IT resources (Question 35). A total of 58.5% of respondents indicated that they were not able to do everything they needed to do using USM information technology resources; of this figure a total of 30.5% indicated this as a barrier.

Specific Needs

A number of questions on the survey asked faculty about specific services and equipment they needed in their classrooms but was not available. The following table indicates in *rank order* those areas in which faculty clearly indicated a need:

Table 5: Specific Technology Needs of Faculty

Classroom Need	Somewhat Agree	Strongly Agree	Total in Agreement
Computer Projection Capability	15.4%	45.7%	61.1%
Instructor's Computer Station	18.5%	39.9%	58.4%
Internet Access	21.0%	32.2%	53.2%
Network Connections	19.4%	31.0%	50.4%
Student Computers	16.8%	31.9%	48.7%

Functions Faculty Would Use if Support Were Readily Available

Questions 37-55 polled faculty as to the services and applications they would use **if** support could be readily obtained. These services have been *ranked in order* of those receiving the most support from the composite of “agree” answers:

Table 6: Ranked List of Technology Functions Faculty Would Use if Supported

Function	Somewhat Agree	Strongly Agree	Total in Agreement
Use E-Mail List Of Students In Class	21.1%	53.9%	75%
Use audio/video clips, animation, or slides	25.1%	48.1%	73.2%
Use multimedia presentations	29%	43.7%	72.7%
Use a web page with course materials	26.7%	44.8%	71.5%
Use the web to conduct research	21.8%	47.6%	69.4%
Use the web for on-line materials archives	29.4%	37.7%	67.1%
Use the web to facilitate collaboration with people at USM	31.4%	28.4%	59.8%
Use the web to facilitate collaboration with people around the world	27.0%	32.6%	59.6%
Use the web for on-line course reserves	25.3%	34.1%	59.4%
Use computer simulations	25.7%	30.9%	56.6%
Use the web to present work to people around the world	23.9%	30.4%	54.3%
Use self-paced tutorials with audio/video clips	25.5%	26.0%	51.5%
Use the web to present work to other people at USM	23.9%	24.3%	48.2%
Use self-paced practice and tests of routine tasks	26.7%	20.3%	47.0%

Use the web to gather information via on-line quizzes, etc.	21.1	23.7	44.8%
Use the web for course delivery	23.7%	21.1%	44.8%
Use streaming video	16.2%	25.3%	41.5%
Use the web to conduct simulations or visualizations	21.3%	20.0%	41.3%

Information by Professional Education Faculty Status

USM's *Preparing Tomorrow's Teachers to Use Technology* (PT3) project is focusing the University's attention on the need for technology infusion in its professional education programs. Because of the aims of this survey was to provide necessary data for the PT3 grant and because five of the institution's colleges are directly involved in the preparation of teachers, this chapter will discuss the data as it related to Professional Education Faculty.

A "Professional Education Faculty" member is defined as one "who teaches one or more courses in professional education, provides professional services to the education candidates (e.g. advising students or supervising student teachers), and/or administers some portion of the Professional Education program" (*Professional Education Policies and Procedures Manual*, p. 2.2). Out of the 268 useable surveys returned, 61 were completed by respondents who identified themselves as Professional Education Faculty (PEF). With the corps of PEF currently numbering 120, this represents a response rate of 50.8% and suggests that technology issues are of particular interest to this segment of the university community. The distribution of responding PEF across the five colleges housing professional education programs is presented in the table below. Two respondents identified themselves as PEF but did not indicate department; eight faculty members from colleges that do not house professional education programs mis-identified themselves as PEF. Not all responding faculty answered Question 59, which asked about their PEF status.

Table 7: Number of PEF Responses by College

College	Pef Responses	Total Pef Assigned To College
Arts	3	8
Ed/Psy	25	67
Lib Arts	13	22
Sci/Tech	13	18
HHS	5	5
Total	59 ³	120

Responses from PEF were, overall, consistent with those reported from the faculty-at-large; however, on several questions there were significant differences in the degree to which PEF and non-PEF either agreed or disagreed with the statements posed. This chapter will discuss those statistically-significant differences.

³ A total of two PEF did not identify their college.

While both PEF and non-PEF disagreed with the statements “I do not know how to incorporate technology into my classes” (Question 6) and “I do not know how to get access” (Question 8), PEF disagreed more strongly in both cases, suggesting that they are very confident about how to access and use technology in instruction.

Both groups also agreed with the statement that “There is no incentive program (e.g., leave time, contribution towards tenure, financial rewards).” PEF agreed with their non-PEF colleagues that the lack of incentives was a significant barrier to their using technology in their instruction, but for PEF this is the single most important barrier, with 82.5% of those responding agreeing (67.5% of non-PEF identified this as an important barrier). The mean score from PEF on this question was 4.17, the highest score given by either group to the items in the list of barriers.

PEF were significantly more likely than non-PEF to identify Internet access and electronic pointers as technologies they needed, but did not have, in their classrooms (though electronic pointers, along with lapel microphones, were the least necessary, according to both groups). The rankings of needed technologies for classrooms differed slightly for these two groups, and the percentage of PEF agreeing that they need all these technologies is notably higher than non-PEF, as illustrated in the table below. There is an acute awareness on the part of teacher educators, nationally, of the importance of using the tools of technology to support teaching and learning, and USM's *Preparing Tomorrow's Teachers to Use Technology* project has spotlighted these issues over the past year for PEF. This may explain why PEF are more strongly in agreement that they need these technologies in their classrooms. PEF were also more likely than non-PEF to report that they had attempted to reserve a multimedia classroom during the past year.

Table 8: PEF and non-PEF Ranking of Technology Needs

Needed Technology	Pef Ranking	Pef % Agreeing	Non-Pef Ranking	Non-Pef % Agreeing
Instructor's computer station	1	71.1%	2	65.2
Computer projection capabilities	2	68.8%	1	67.7%
Internet access	3	71.7%	5	56.2%
Student computers	4	66.7%	3	54.4%
Network connections	5	69.5%	4	54.2%
Electronic pointers	6	48.2%	6	37.4%
Lapel microphone	7	41.5%	7	31.0%

Statistically significant differences also appeared between PEF and non-PEF responses to the list of technologies they would like to use if they had the necessary support. PEF were more likely than non-PEF to indicate they would like to use the following (listed in order of degree of significant difference):⁴

- 1) a class electronic bulletin board/forum on the web;
- 2) the web for course delivery;
- 3) a web page with course material;

⁴ Many of these services are readily available and the responses may indicate a need for marketing or additional support.

- 4) the web to facilitate collaboration with people at USM;
- 5) multimedia presentations;
- 6) the web to present work to other people at USM;
- 7) audio/video clips, animation or slides;
- 8) an e-mail list of students in their classes; and
- 9) the web to conduct simulations or visualizations.

Technologies receiving the highest scores from PEF are ranked in the table below. Again, the percentage of PEF somewhat or strongly agreeing on most of these top ranked technologies is higher than the non-PEF percentage; this is true on all but three items: (1) the use of self-paced practice and tests of routine tasks; (2) the use of self-paced tutorials with audio/video clips; and (3) the use of the web to present work to people around the world. Technologies receiving the highest percentage of agreement from PEF were e-mail lists of students (87.7%) and web page with course materials (87.5%). Those receiving the highest percentage of agreement from non-PEF were e-mail lists (75.9%) and multimedia presentations (75.8%). These figures suggest a higher level of interest among PEF in using the identified technologies.

Table 9: Technology Priorities for PEF Compared with non-PEF Priorities

Rank	Pef (% Of Pef In Agreement)	Non-Pef (% Of Non-Pef In Agreement)
1	Multimedia presentations (85.7)	An e-mail list of students (75.9)
2	An e-mail list of students (87.7)	Multimedia presentations (75.8)
3	Audio/video clips, animation, or slides (82.5)	The web to conduct research (70.4)
4	A web page with course materials (87.5)	Audio/video clips, animation, or slides (74.5)
5	The web to conduct research (83.9)	The web for on-line materials archives (73.6)
6	A class electronic bulletin board/forum on the web (77.8)	A web page with course materials (71.8)
7	The web for on-line materials archives (76.2)	The web to facilitate collaboration with people around the world (73.6)
8	The web to facilitate collaboration with people at USM (77.4)	The web for on-line course reserves (64.3)
9	The web for on-line course reserves (71.4)	The web to present work to people around the world (65.0)
10	The web to facilitate collaboration with people around the world (68.3)	The web to facilitate collaboration with people at USM (60.7)

Conclusions and Recommendations

The technology survey data has provided a wealth of information and has highlighted areas for further investigation as well as areas that need more marketing and training. The committee recommends that the university administration evaluate the areas where needs are clearly defined and develop solutions to address a number of the more profound needs by working in conjunction with the newly formed technology advisory committees and OTR.

In summary, the following items are areas that were identified as are having a negative impact on the ability of the faculty to incorporate educational technology into the curriculum:

1. Technological facilities are not available in the classrooms (81.9%).
2. The lack of incentive programs (leave time, contribution towards tenure, financial rewards) is impeding the use of educational technology (73.9%).
3. There are barriers to the use of technology (63%).
4. Needed in the classroom are the following items: Internet access (60.8%)⁵, Network connections (57.6%), Computer projection capabilities (66.2%), Student computers (57.1%), and Instructor's computer station (66.0%).
5. Classroom/lab support is not available (61.2%).
6. Upgraded hardware is needed (56.8%).

All of these are important issues that the institution needs to address; many of the infrastructure, support, and equipment needs require additional funding in order to resolve. The committee views, however, the lack of incentive programs as a major problem that cannot be resolved by budgetary decisions alone. Although there are faculty members who are willing to utilize technology to improve student learning, especially with the use of WebCT, these intense endeavors have not been rewarded and valued in the evaluation process towards tenure and promotion; and there has not been a major infusion of funds to facilitate such rewards. A cultural change will need to take place at the institution in order to align it with other institutions that are becoming more learner centered. It is recommended that the university administration evaluate this problem further and develop solutions that will encourage faculty to embrace different teaching-learning strategies.

⁵ New initiatives with the campus network should soon remedy many access problems.

Some of the services which some faculty indicated they would use are already available from OTR and its partners, and are being used by a number of faculty. The proliferation of web-based courses utilizing WebCT has made an important impact on the faculty and the advances with the campus infrastructure are making the web accessible throughout the University. It is further recommended that these areas be a focus for marketing and additional support by OTR; in some cases the services are in place, but the faculty may need assistance in the following areas: training, additional technicians to facilitate usage, and incentives.

Faculty are more prepared to utilize the basic technologies and need support for multimedia presentations (72.7%), web page with course materials (71.5%), and similar areas. There is a serious lack of technical support and training for faculty in order to utilize innovative technologies and to make major changes in teaching methods.

It is recommended that the University first focus on the specific services faculty have indicated as basic requirements for their classes (see Table # 5, page 11.) These needs include computer projection capabilities, instructor's computers, internet/network access and student computers. Such an approach would meet the needs of more faculty members and their students and would go further in promoting the integration of technology into the overall curriculum.

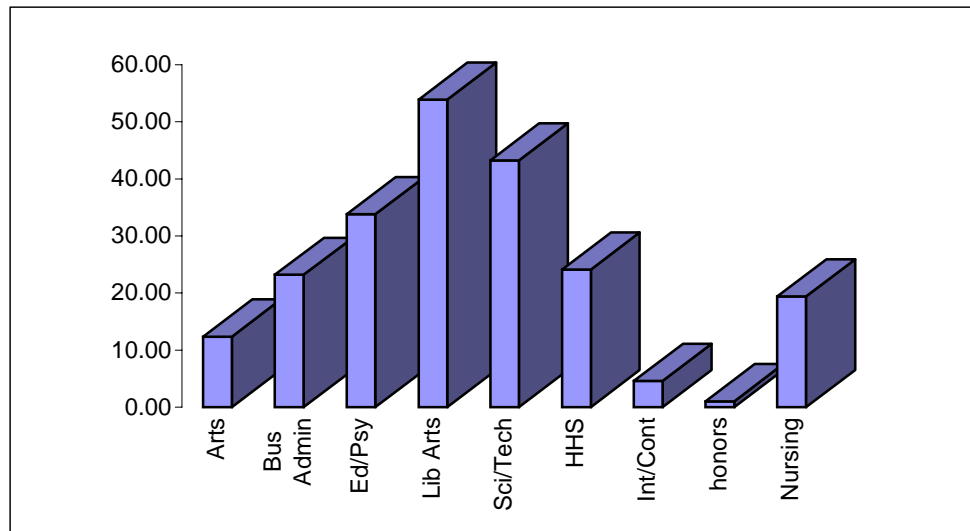
This project has focused on the academic areas of the institution; the committee recommends similar surveys and evaluations be conducted to include staff, administrative, and student technology concerns and issues.

The faculty have a very positive attitude towards technology and are quite willing to embrace its capabilities. As the University makes strides towards a learner-centered environment, it will become even more important that educational technology become a crucial component of the curriculum.

Comparisons by Colleges

The results of the survey broken down by colleges should provide additional information that will support campus planning efforts and the implementation of technology programs. There were some respondents who did not indicate their college affiliation, and in some cases, respondents did not answer all of the questions; therefore, there is some variation in the number of responses and the total number of responses varied within the same college. The following chart indicates the **average number** of people responding to questions:

Responses by College



(Note: there was one response from the Honors College; in order to protect anonymity, this data is not included in further presentations.)

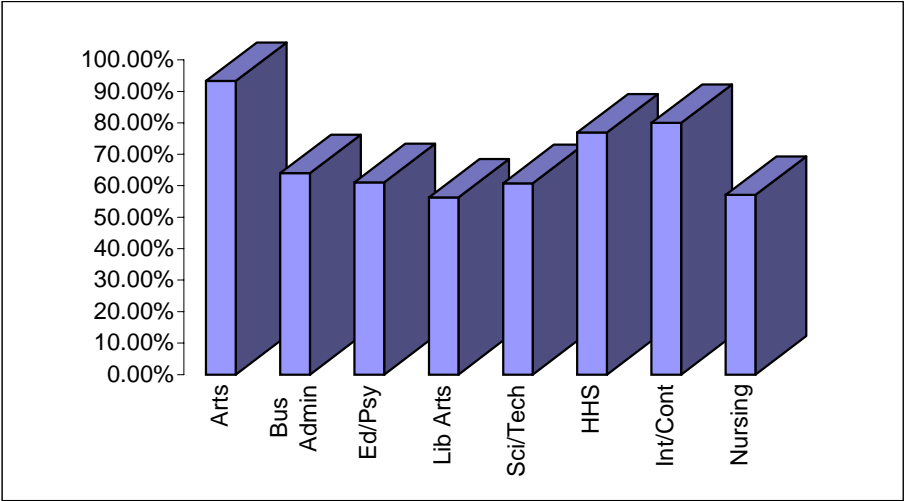
Responses to specific questions

As indicated above, a total of 56 questions were provided on the survey. In the following section, charted information is provided for questions that met either of the following criteria:

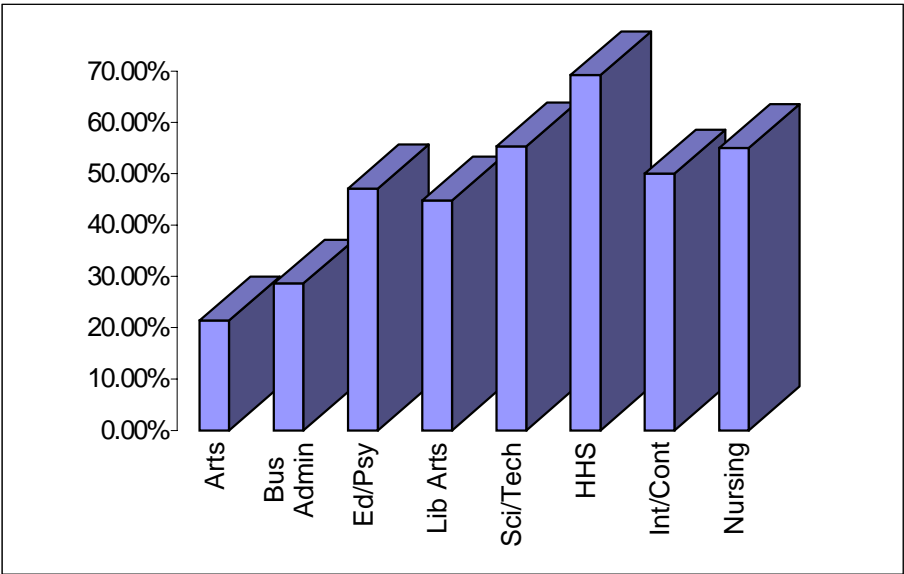
1. There was a wide disparity in responses among the colleges.
2. Responses were clearly indicative of support or non-support of the concept.

Question 1: Barriers To Technology

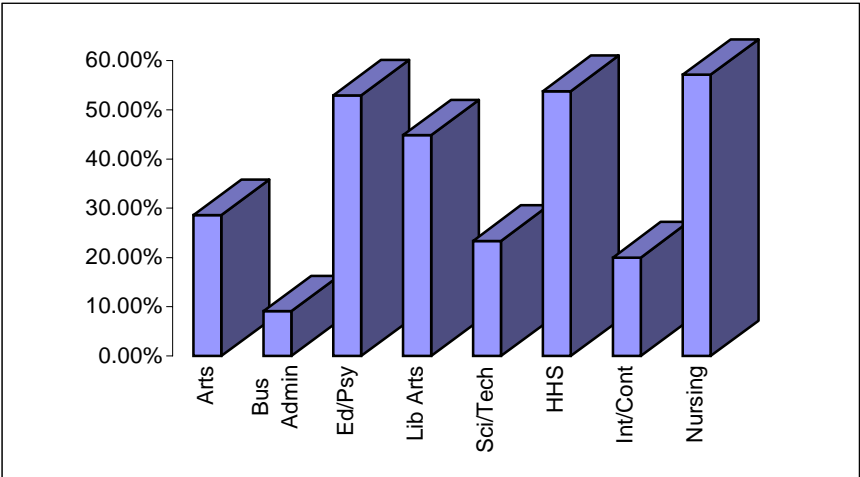
The following chart provides information by college on the responses to Question 1; all of the colleges believe that there are barriers to technology usage



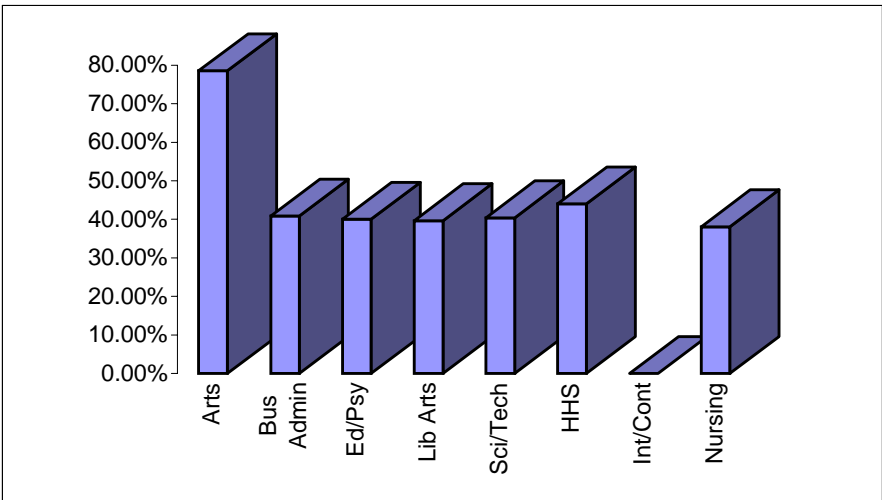
Question 2: I Do Not Have The Time To Use The Applications/Media



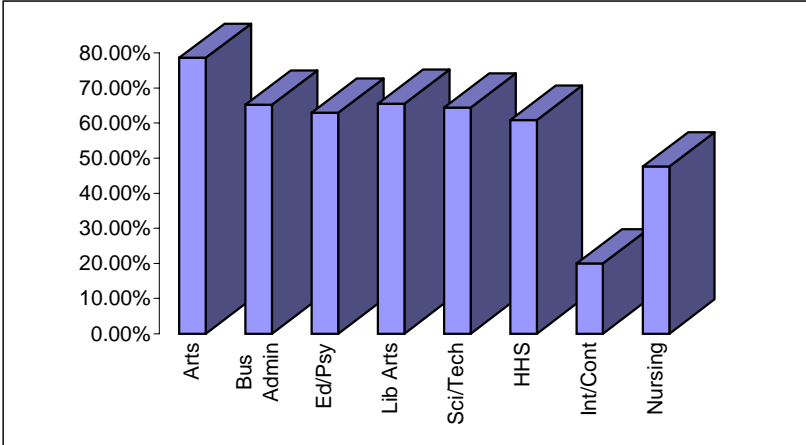
Question 3: Additional Training Required



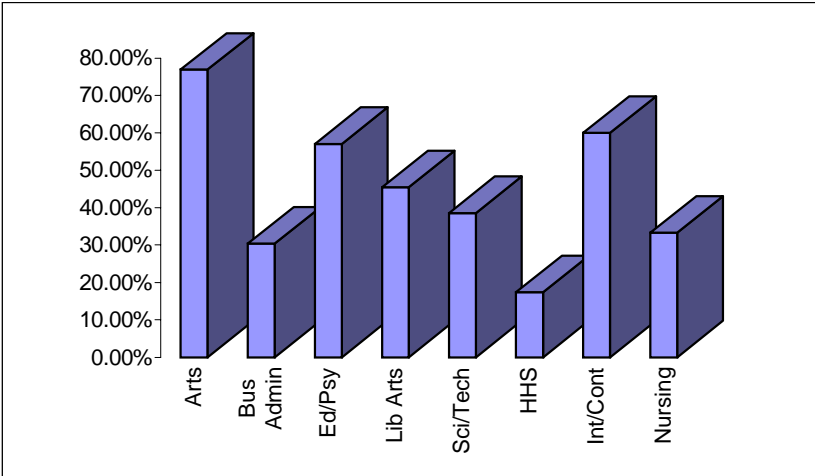
Question 4: I Do Not Have Technical Support On Campus



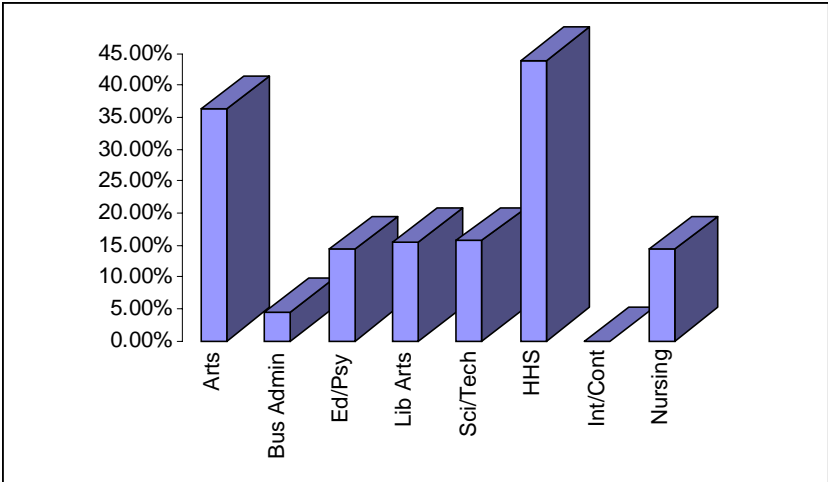
Question 5: I Do Not Have On-Site (E.G., Classroom, Lab) Support



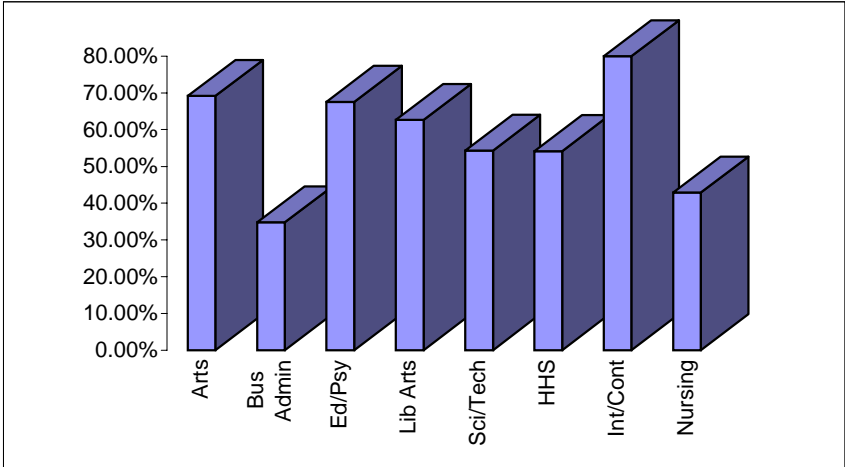
Question 7: I Do Not Use The Applications/Media...Because It Is Too Expensive



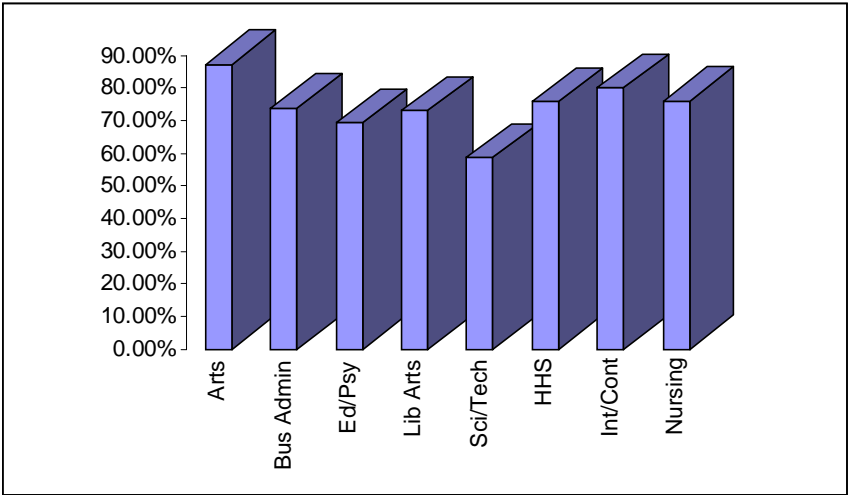
Question 8: I Do Not Know How To Get Access



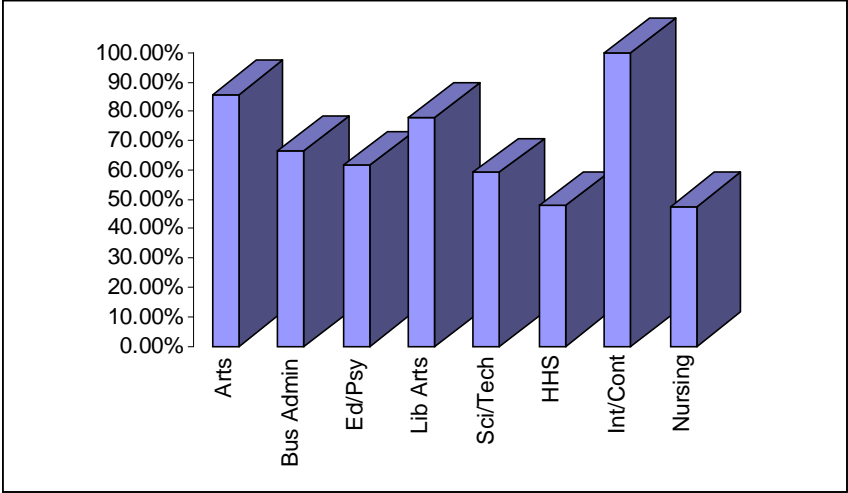
Question 9: I Do Not Use The Applications...Because I Need Upgraded Hardware



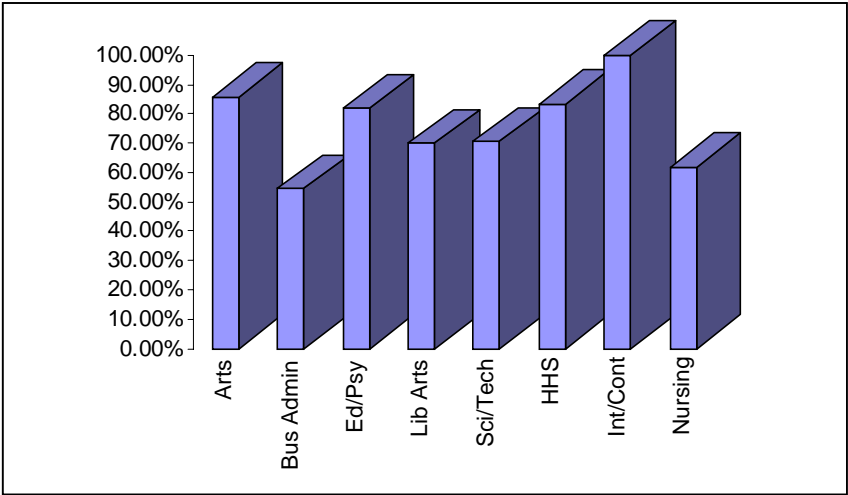
Question 10: I Do Not Use The Applications...Because The Technology Is Not Available In My Classroom



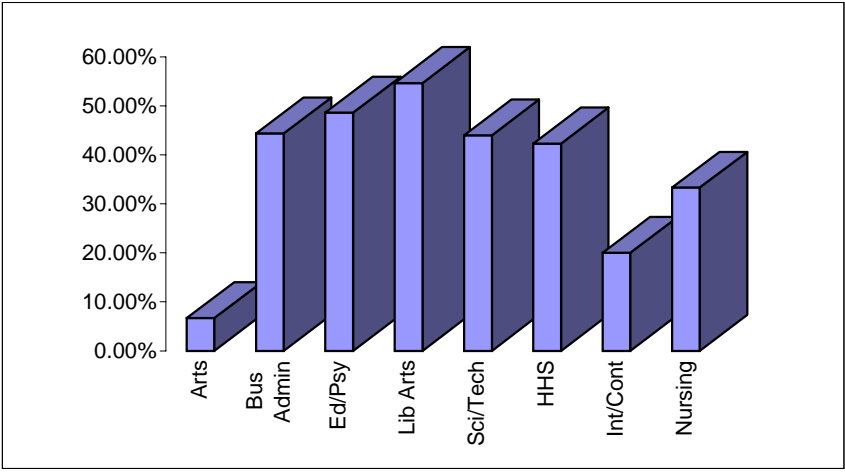
Question 14: I Do Not Use The Applications...Because I Do Not Have Departmental Funds To Pay Software Costs



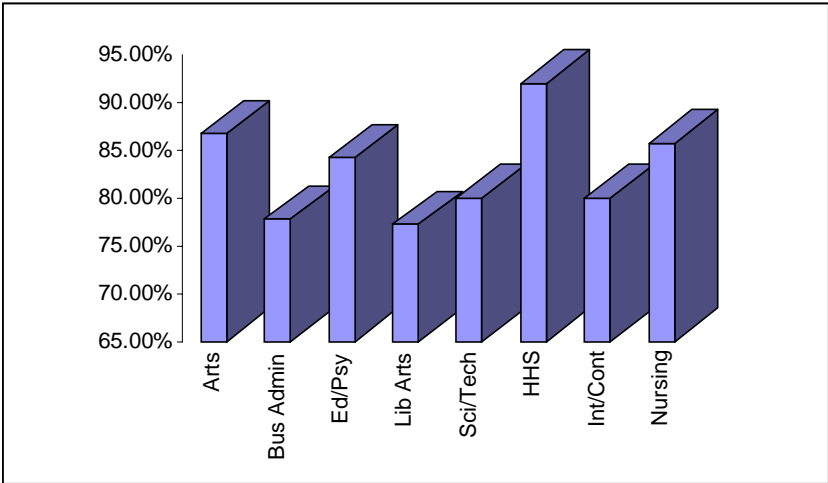
Question 15: I Do Not Use The Applications...Because There Is No Incentive Program



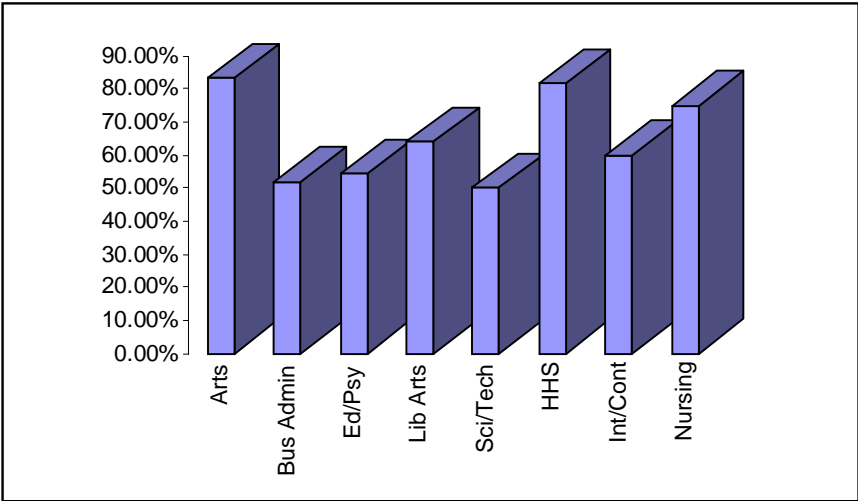
QUESTION 18: I AM ABLE TO ACCESS ALL USM COMPUTING RESOURCES I NEED FROM MY OFFICE



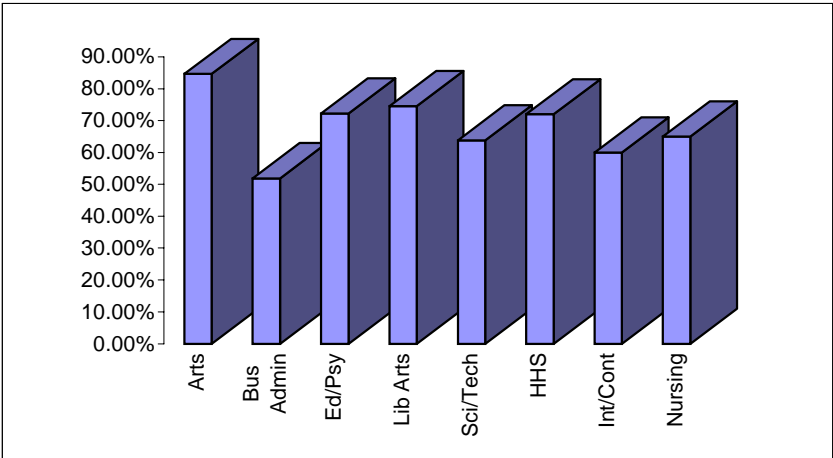
Question 20: Technology Facilities Are Needed In The Classrooms I Use



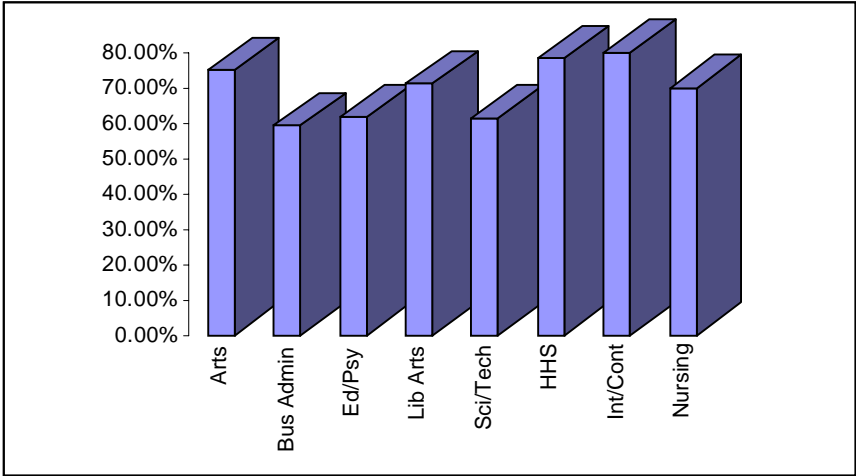
Question 22: In The Classrooms I Use, I Need...Internet Access



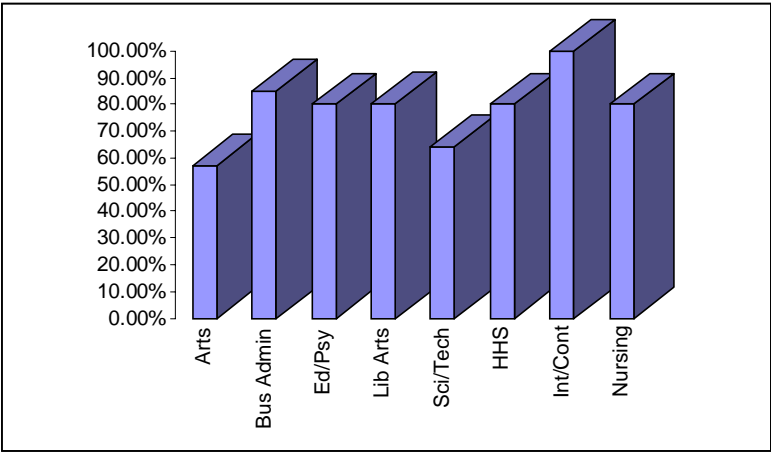
Question 24: In The Classrooms I Use, I Need...Computer Projection Capabilities



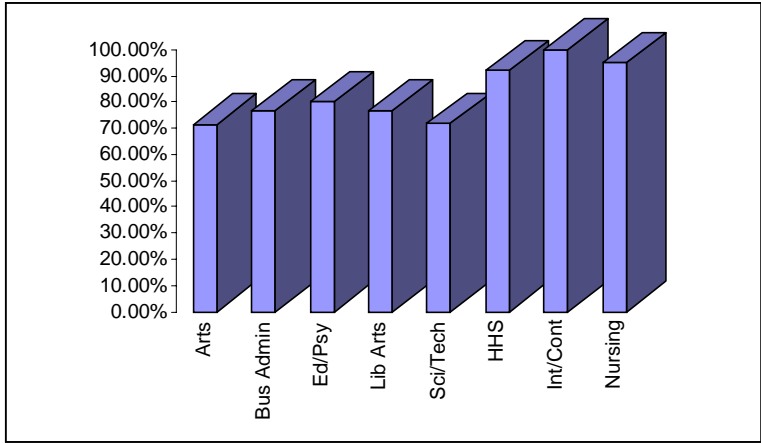
Question 28: In The Classrooms I Use, I Need...Instructor's Computer Station



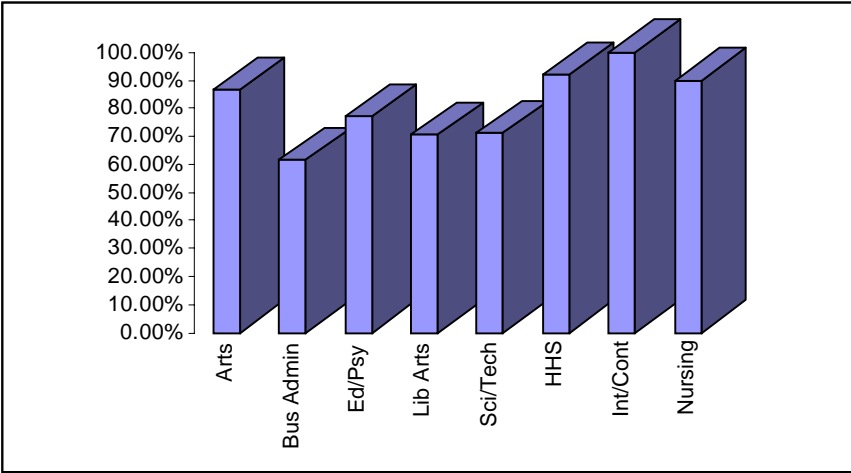
Question 37: If I Could Easily Obtain Support And Service I Would...Use A Web Page With Course Material



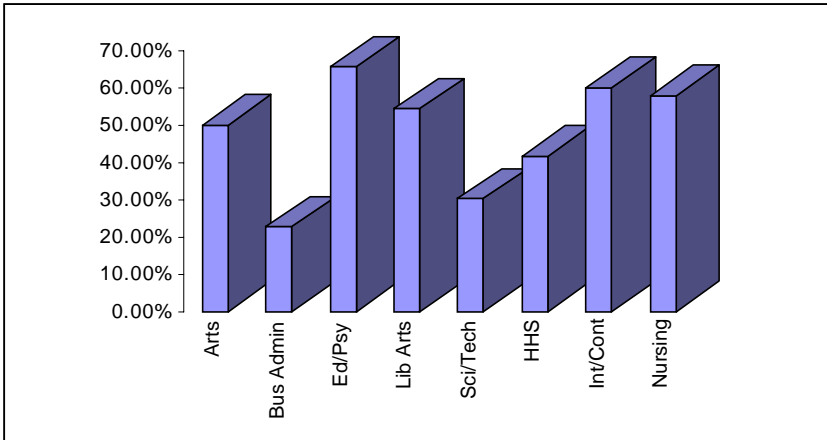
Question 38: If I Could Easily Obtain Support And Service I Would...Use E-Mail List Of Students In My Class



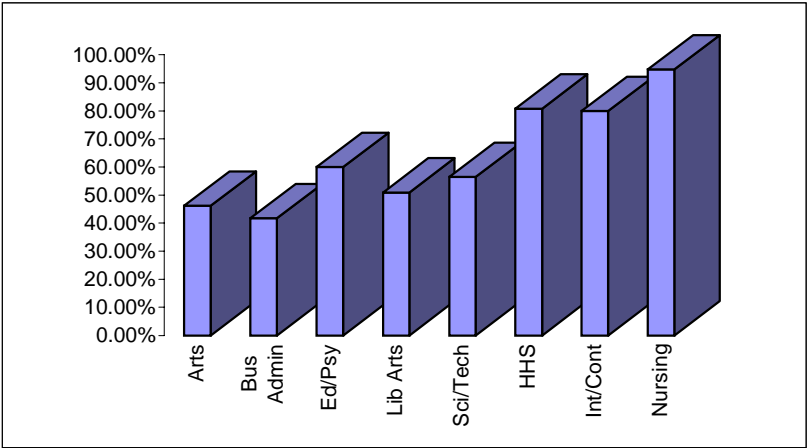
Question 40: If I Could Easily Obtain Support And Service I Would...Use Audio/Video Clips, Animation, Or Slides



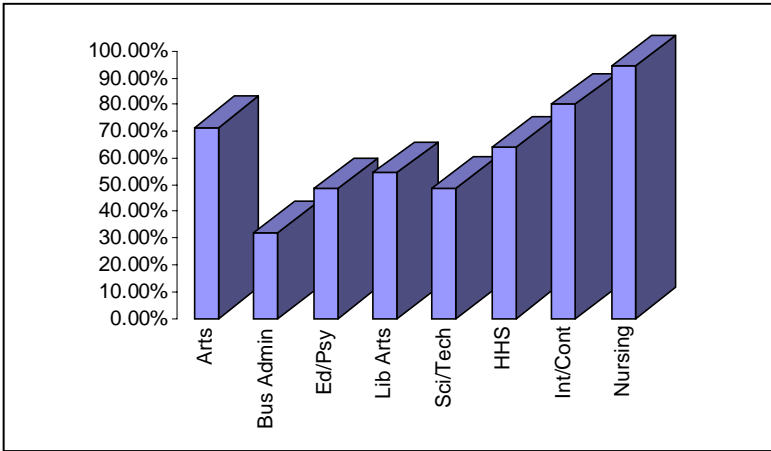
Question 41: If I Could Easily Obtain Support And Service I Would...Use Streaming Video



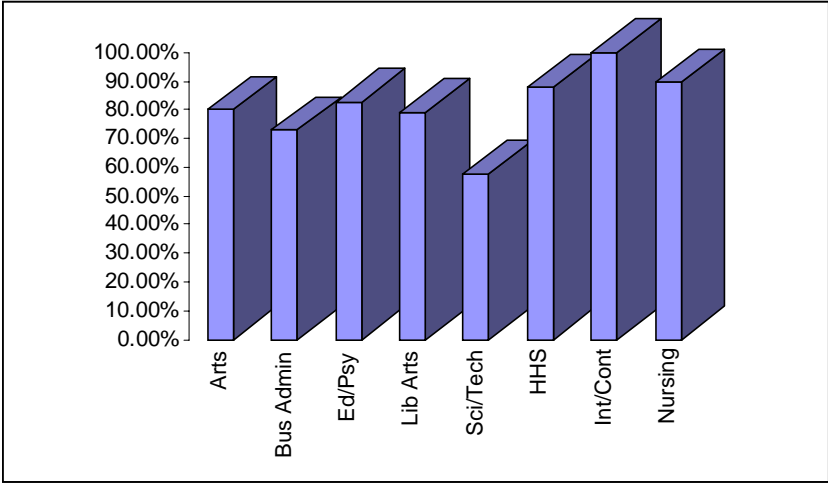
Question 43: If I Could Easily Obtain Support And Service I Would...Use Computer Simulations



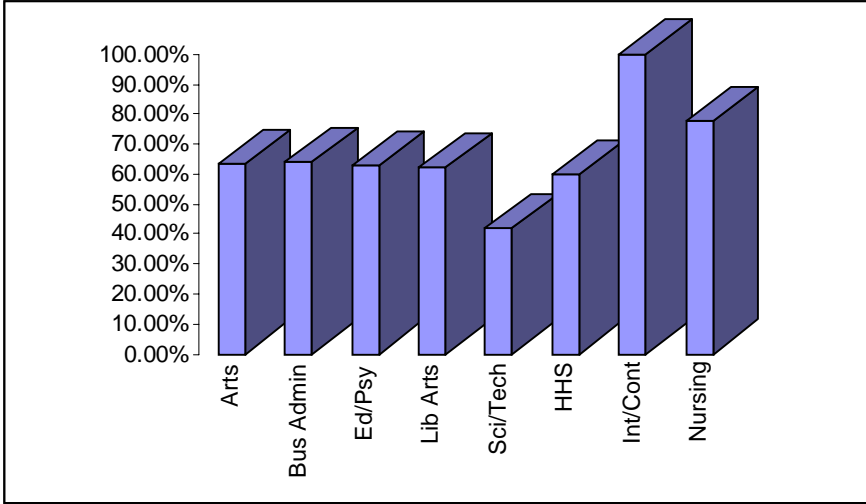
Question 44: If I Could Easily Obtain Support And Service I Would...Use Self-Paced Tutorials With Audio/Video Clips



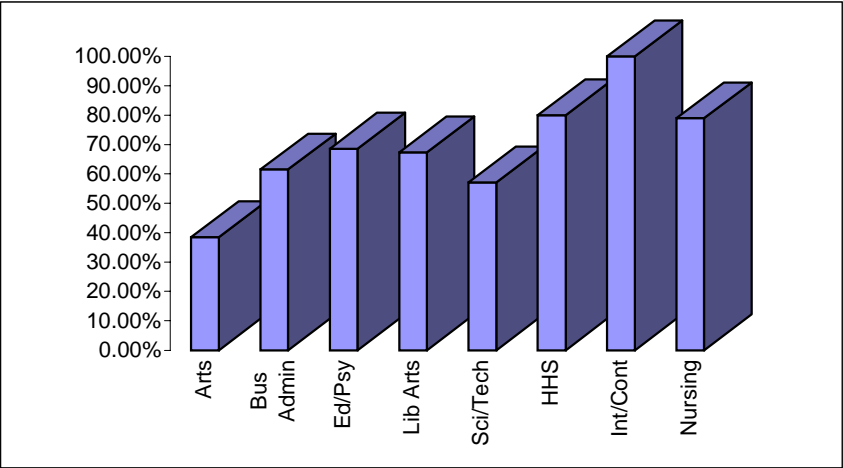
Question 45: If I Could Easily Obtain Support And Service I Would...Use Multimedia Presentation



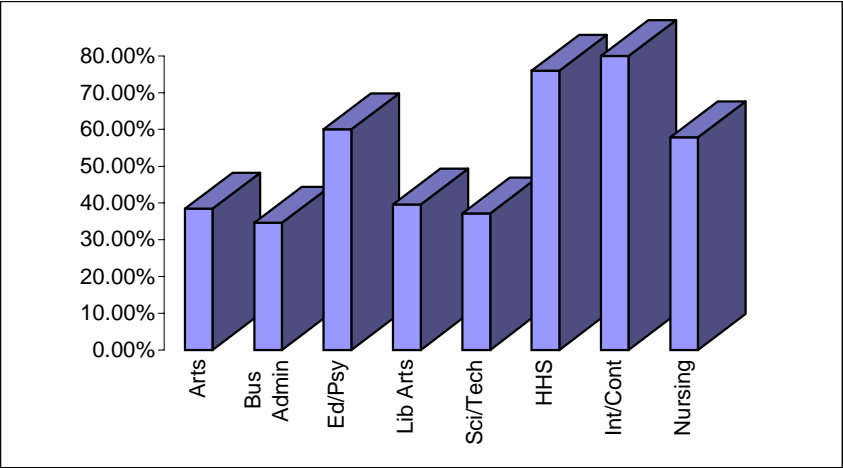
Question 48: If I Could Easily Obtain Support And Service I Would...Use The Web To Present Work To People Around The World



Question 54: If I Could Easily Obtain Support And Service I Would...Use The Web For On-Line Course Reserves



Question 55: If I Could Easily Obtain Support And Service I Would...Use The Web For Course Delivery



Technology Resources Available at Southern Miss

The purchase of technology, especially instructional technology, at the University has not been centralized throughout the years. Most departments have made decisions based on development funds and grant resources. Equipment Services in the Instructional Media Unit (IMU) of the Office of Technology Resources has received a limited amount of funding and has made an effort to meet as many of the campus needs as possible. Although Property Accounting maintains the official campus inventory, there is not a current listing of all of the equipment used in support of instruction. Before the recent formation of the Office of Technology Resources, the resources available for campus technology were sporadic and there was no centralized approach to planning for educational technology. The provision of an adequate level of technology resources to support education will take substantial commitments of funds in order to arrive at an appropriate level, and the endeavor will be on-going as technology emerges and equipment and applications become outdated.

Educational equipment currently available

Equipment Services maintains and provides for the majority of educational technology equipment on the Hattiesburg campus. Information on the availability of equipment is provided from their inventory and service records as of October, 2000.

Equipment Mounted In Classrooms and Locations:

Speech and Hearing 105 -- Data/Video Projector and VCR **

Liberal Arts 108 -- Data/Video Projector, VCR, Slide to Video Converter, Audio Equipment, S-Video Switcher, Crestron Controller, Computer and Multimedia Desk.

Joseph Green 300 -- Data/Video Projector, VCR, Audio Equipment and AMX Controller **

Joseph Green 303 -- Active Matrix LCD Color Panel, VCR, Audio Equipment and AMX Controller **

Joseph Green 116 -- Data Projector, VCR, Audio Equipment, S-Video Switcher, Crestron Controller, Computer and Multimedia Desk

Johnson Science Tower 214 --Active Matrix Color LCD Panel with Computer **

Johnson Science Tower 212 -- Data/Video Projector **

McLemore 160 -- Data Projector **

McLemore 155 -- Data Projector

College Hall (PeopleSoft) -- (2) Data/Video Projectors

George Hurst 113 -- Data/Video Projector, VCR and Audio Equipment

Nursing 119 – Data/Video Projector, VCR, Visual Presenter, Speaker,
and Computer **

Equipment Housed In Buildings On Carts:

Joseph Green MIS Department -- (2) Roll around Multimedia Cart, Data/Video Projector,
VCR, Speaker and Computer **

Joseph Green Accounting Dept. -- (3) Roll around Multimedia Cart, Data/Video Projector,
VCR, Speaker and Computer **

Owings-McQuagge PSY Dept. -- (1) Roll around Multimedia Cart, Data/Video Projector,
VCR, Speaker and Computer **

Johnson Science Tower 503 -- Color LCD Panel and Overhead Projector, Roll around
Multimedia Cart and Computer **

Walker Science Building 229 -- (2) Color LCD Panel and Overhead and Computer **

Human Performance and Recreation-- (2) Data/Video Projector, VCR, Speaker, Small
Cart and Computer **

Kelly Hall -- Data/Video Projector, Small Cart and Computer **

Cook Library -- (2) Data/Video Projector, LCD Panel and Carts **

Southern Hall 309 -- (3) Data/Video Projector **

**Loaner Equipment Housed In The Equipment Services Pool That Serves The
Campus:**

(9) Data/Video Projector, VCR, Speaker and Small Cart

(3) Data/Video Projector with Case

(2) iBook Mac Laptop Computers

(3) PowerBook Mac Laptop Computers

(19) Dell Laptop Computers

(6) Dell Desktop Computers

** Note: The equipment denoted with (**) is three to five years old and is in need of
replacing. When these units were purchased they were not top of the line since the
purpose was to meet as many needs as possible.

Computer Labs at USM

The table below lists the “open” computer labs that are available to faculty and students throughout the Hattiesburg campus; these labs are supported by the Office of Technology Resources, either completely or in partnership with the academic departments.

Location/Lab	Printers	#Stations	Purchase Date	Software	Processor
HE 206	HP5Si	17	4/98	MicrosoftOffice 97; SPSS; WPerfect	P2-233
Cook 207	HP8000	22 (8)Macs	4/98 6/99	MicrosoftOffice 97; SPSS; WPerfect	P2-233
OMH 131	HP8000	(22)PCs (5)Macs	4/98	MicrosoftOffice 97; SPSS; WPerfect	P2-300; Power Mac G3s
SRS 105	HP4M	14	1/98	Microsoft Office 97; SPSS	P2-166
Harkins Hall 117-D	HP5Si	25	Purchased by Nursing '97	Microsoft Office 97; SPSS	P2-166
PAC 100	HP4000	18	4/98	Mac OS; Graphic Art; Music Software	PowerMacG3s
AKH 108	HP8500N HP750Design Jet 36" Plotter Digitizers Scanners	30	6/99	Microsoft Office 97; AutoCad; (contract software packages)	Dell P6400
TEC 233	HP4	30	10/99	Microsoft Office 97; AutoCad; (contract software packages)	Dell P6400
TEC 207	HP5Si	29	1997	Microsoft Office 97	P2-90/100/200
JST 201	HP5Si	23	1997	Microsoft Office 97	P2-200

Interactive Video Network

The delivery of courses via the Interactive Video Network began in the spring of 1994; at the close of the summer term, 2000, a total of 365 courses had been delivered to an estimated 11,044 students. During the more desirable hours all classrooms are booked and, in order to meet more needs, the delivery of weekend classes was recently initiated.

IVN Room Configurations:

Hattiesburg, JGH 203 (Zip Drive, Internet connection, VTEL Codec and Gateway computer, fax/phone, photocopier, VCR, ELMO visual presenter, data projector with large multi-media screen, conference phone)

Hattiesburg, OMH 102 (Zip Drive, Internet connection, VTEL Codec and Gateway computer, fax/phone, photocopier, VCR, ELMO visual presenter, data projector with large multi-media screen, conference phone)

Gulf Park Holloway Complex, Room F (3 Internet connections for VTEL Codec, Gateway computer and laptop, fax/phone, photocopier, VCR, ELMO visual presenter, conference phone)

Gulf Park Holloway Complex, Room G (3 Internet connections for VTEL Codec, Gateway computer and laptop, fax/phone, photocopier, VCR, ELMO visual presenter, conference phone)

USM Center Jackson County, Room 214 (Internet connection, fax/phone, VTEL Codec, photocopier, VCR, ELMO visual presenter, data projector with large multi-media screen, conference phone)

Stennis Space Center (Fax/phone, VTEL Codec, VCR, ELMO visual presenter)

Campus Infrastructure—Networking

During 1999-2000 considerable progress was made in extending and upgrading the campus network on the Hattiesburg campus. A total of 102 buildings were identified for wireless installation and OTR projected that 32 of them would be completed by the end of 2000. Wireless will be virtually everywhere by the end of fiscal year 2000-01 and 10 megabit connections will be available from any classroom on campus.

The 2 tables below indicate the status of the campus networking project as of March 1, 2001:

Campus Networking—Phase 1

Building Name	Priority	Status	Estimated Completion Date
Arthell Kelley Hall	0	Complete	Complete
Bedie Smith Clinic	0	Complete	Complete
Bennett Auditorium	0	95% Complete	3/15/01
Bolton Hall	0	Complete	Complete
Bond Hall	0	Waiting on Equip	Complete
Chain Technology Building	0	Complete	Complete
College Hall	0	Complete	Complete
Cook Library	0	Complete	Complete
East Stores Warehouse	0	In Process	3/15/01
English Language Institute	0	Complete	Complete
Forrest County Hall	0	Complete	Complete
Harkins Hall	0	Complete	Complete
Hattiesburg Hall	0	Complete	Complete
Hickman Hall	0	Complete	Complete
HPER	0	Complete	Complete
Johnson Science Tower	0	Waiting on Equip	Complete
Jones Hall	0	Complete	Complete
Kennard Washington Hall	0	Complete	Complete
Lucas Administration Building	0	Complete	Complete
Manoni PAC	0	Complete	Complete
McCain Library	0	Complete	Complete
McClesky Hall	0	Complete	3/15/01
McLemore Hall	0	Complete	Complete
Mississippi Hall	0	Complete	Complete
Pat Ferlise	0	95% Complete	Complete
Pulley Hall	0	Complete	Complete
Roberts Hall	0	Complete	Complete
Scott Hall	0	Complete	Complete
Southern Hall	0	Complete	Complete
Stores & Receiving	0	In Process	Complete
Stores Warehouse	0	Not Started	Complete
Stout Hall	0	Complete	Complete

The Hub	0	Complete	Complete
Union	0	Complete	Complete
Vann Hall	0	Complete	Complete
Walker Science Building	0	Complete	Complete
Wilbur Hall	0	Complete	Complete
Henderson Physical Plant	0	95% Complete	Complete

Campus Networking--Phase 2

Building Name	Priority	Status	Estimated Completion Date
Bennett Auditorium	0	95% Complete	2/28/01
Stout Hall	0	Complete	2/28/01
Pat Ferlisie	0	95% Complete	2/28/01
Henderson Physical Plant	0	95% Complete	2/28/01
Elam Arms	1	Pending	5/31/01
Marsh Hall	2	Pending	5/31/01
Joseph Green Hall	3	Pending	5/31/01
Owings-McQuagge Hall	4	Pending	5/31/01
Liberal Arts	5	Pending	5/31/01
Hillcrest Hall	6	Pending	6/29/01
Theater & Dance Building	7	Pending	5/31/01
Textbook Services	8	Pending	5/31/01
Printing Center	9	Pending	5/31/01
Fritzche-Gibbs	10	Pending	6/29/01
George Hurst	11	Pending	6/29/01
Speech & Hearing	13	Pending	6/29/01
Weathersby Hall	14	Pending	6/29/01
West Stadium	15	Pending	6/29/01
ROTC	16	Pending	6/29/01
Payne Center	17	Pending	6/29/01
Ogletree Alumni House	18	Pending	6/29/01
Honor House	19	Pending	6/29/01
Green Coliseum	20	Pending	6/29/01
106 N 31st	21	Pending	6/29/01
East Stadium	95	Pending	7/31/01
Leech House	95	Pending	7/31/01
Alpha Tau Omega	97	Pending	8/31/01
Delta Tau Delta	97	Pending	8/31/01
Kappa Sigma	97	Pending	8/31/01
Kate Hubbard House	97	Pending	8/31/01
Phi Kappa Tau	97	Pending	8/31/01
Pi Kappa Alpha	97	Pending	8/31/01

Sigma Alpha Epsilon	97	Pending	8/31/01
Sigma Phi Epsilon	97	Pending	8/31/01
Sigma Chi	97	Pending	8/31/01
3-Dimensional Arts Building	98	Pending	9/28/01
Burris House	98	Pending	9/28/01
Child Care 1	98	Pending	9/28/01
Child Care 2	98	Pending	9/28/01
Sports Arena	98	Pending	9/28/01
Stone's Throw	98	Pending	9/28/01
Motor Pool	98	Pending	9/28/01

Technology Survey Instrument

The following item is a copy of the survey that was distributed to faculty and administrators.

USM Technology Survey⁶ Faculty and Administrators

Please respond to these statements by marking your answers on the enclosed Scantron sheet, using the following scale:

- 0 Not Applicable
- 1 Strongly Disagree
- 2 Somewhat Disagree
- 3 Neither Agree or Disagree
- 4 Somewhat Agree
- 5 Strongly Agree

(1) There are no barriers to my using the applications and media I would like to use. 0 1 2 3 4 5

I do not use the applications and media I would like to use because:

- (2) I do not have the time. 0 1 2 3 4 5
- (3) I have not acquired the necessary skills. 0 1 2 3 4 5
- (4) I do not have technical support on campus. 0 1 2 3 4 5
- (5) I do not have on-site (e.g., classroom, lab) support. 0 1 2 3 4 5
- (6) I do not know how to incorporate technology into my classes. 0 1 2 3 4 5
- (7) It is too expensive. 0 1 2 3 4 5
- (8) I do not know how to get access. 0 1 2 3 4 5
- (9) I need upgraded hardware. 0 1 2 3 4 5
- (10) The technology is not available in my classroom. 0 1 2 3 4 5
- (11) The applications and media do not run on machines in the computing sites. 0 1 2 3 4 5
- (12) I am not sure how to legally use copyrighted materials. 0 1 2 3 4 5
- (13) It is too much trouble. 0 1 2 3 4 5
- (14) I do not have departmental funds to pay software costs. 0 1 2 3 4 5

⁶ This survey is modeled on the work of Carl Berger at the University of Michigan; see <http://www.itd.umich.edu/~cberger/>

- (15) There is no incentive program (e.g., leave time, contribution towards tenure, financial rewards). 0 1 2 3 4 5
- (16) I am better able to use information technology now than I was two years ago. 0 1 2 3 4 5
- (17) I am able to do everything I need to/want to using USM information technology resources. 0 1 2 3 4 5
- (18) I am able to access all USM computing resources I need from my office. 0 1 2 3 4 5
- (19) I am able to access all USM computing resources I need from my home. 0 1 2 3 4 5
- (20) I have all the technological facilities I need in the classrooms I use. 0 1 2 3 4 5
- (21) I do not need any technological facilities in the classrooms I use. 0 1 2 3 4 5
- In the classrooms I use, I need but do not have:
- (22) Internet access. 0 1 2 3 4 5
- (23) Network connections. 0 1 2 3 4 5
- (24) Computer projection capabilities. 0 1 2 3 4 5
- (25) A lapel microphone. 0 1 2 3 4 5
- (26) Electronic pointers. 0 1 2 3 4 5
- (27) Student computers. 0 1 2 3 4 5
- (28) Instructor's computer station 0 1 2 3 4 5
- (29) I have attempted to reserve a multimedia classroom during the past year. 0 1 2 3 4 5
- (30) I am always able to reserve a multimedia classroom with no problems. 0 1 2 3 4 5
- When using a multimedia classroom on campus I have encountered no problems with
- (31) The equipment 0 1 2 3 4 5
- (32) The room's physical environment 0 1 2 3 4 5
- (33) On-site technical support 0 1 2 3 4 5
- (34) I am very familiar with the information technology resources on campus. 0 1 2 3 4 5
- (35) USM's information technology resources meets my needs very adequately. 0 1 2 3 4 5
- (36) USM's information technology support services have been very helpful and responsive to my needs. 0 1 2 3 4 5
- If I could easily obtain support and service, I would very much want to:
- (37) Use a web page with course materials. 0 1 2 3 4 5
- (38) Use an e-mail list of students in my class. 0 1 2 3 4 5
- (39) Use a class electronic bulletin board/forum on the web. 0 1 2 3 4 5
- (40) Use audio/video clips, animation, or slides. 0 1 2 3 4 5
- (41) Use streaming video. 0 1 2 3 4 5
- (42) Use self-paced practice and tests of routine tasks. 0 1 2 3 4 5
- (43) Use computer simulations. 0 1 2 3 4 5
- (44) Use self-paced tutorials with audio/video clips. 0 1 2 3 4 5
- (45) Use multimedia presentations. 0 1 2 3 4 5
- (46) Use the web to conduct research. 0 1 2 3 4 5
- (47) Use the web to present work to other people at USM. 0 1 2 3 4 5
- (48) Use the web to present work to people around the world. 0 1 2 3 4 5

- | | |
|--|-------------|
| (49) Use the web to conduct simulations or visualizations. | 0 1 2 3 4 5 |
| (50) Use the web to facilitate collaboration with people at USM. | 0 1 2 3 4 5 |
| (51) Use the web to facilitate collaboration with people around the world. | 0 1 2 3 4 5 |
| (52) Use the web to gather information via on-line quizzes, etc. | 0 1 2 3 4 5 |
| (53) Use the web for on-line materials archives. | 0 1 2 3 4 5 |
| (54) Use the web for on-line course reserves. | 0 1 2 3 4 5 |
| (55) Use the web for on-line course delivery. | 0 1 2 3 4 5 |

(56) Are you an officially designated Professional Education Faculty (PEF) member? (PEF teach one or more professional education courses and/or have official advising responsibilities for professional education students.)

Yes=1

No=2