

Faculty Survey:
Knowledge and Use of Information Technology
In Leadership Education

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Table of Contents

3	Executive summary
6	Rationale and outline of proposal
13	Findings I – comparison of results from survey of Department of Leadership faculty with those from national ECAR undergraduate student survey
17	Findings II – comparison of results from survey of Department of Leadership faculty results with those from graduate students in same department
21	Findings III – comparison of results from survey of full-time faculty versus part-time faculty in the Department of Leadership
25	Findings IV – comparison of results from survey of Higher / Adult Education faculty versus K-12 faculty in the Department of Leadership
29	Recommendations
30	References
32	Appendix A – Sample of the survey instrument
41	Appendix B – Data summary of results comparing the responses of the Department of Leadership faculty with the responses from graduate students in the same department
60	Appendix C – Data summary of results comparing the responses of full-time versus part-time faculty, and Higher / Adult Education versus K-12 faculty, in the Department of Leadership

Executive Summary

The residency project described below was a research study that explored the knowledge and use of information technology (IT) among faculty members in the Department of Leadership at the University of Memphis in the spring of 2006. The project was established to complement the study being conducted by a fellow student to explore the knowledge and use of IT among graduate students in the Department of Leadership, to consider patterns of use by faculty groups within the department, and to supplement the information provided by the EDUCAUSE Center for Applied Research (ECAR) in its recent annual surveys concerning the knowledge and use of IT among undergraduate populations.

The ECAR survey (done annually since 2004) was the springboard for implementation of this residency project. The most recent document reporting data from that survey identified important indicators that suggested the present study could be of value to the Department of Leadership. In the ECAR survey, the research team determined that, among the undergraduate students who strongly agreed their instructors used IT well, 68.9% indicated greater engagement in their coursework, 85.5% indicated increased interest in the subject matter, and 73.3% indicated increased understanding of complex concepts (Kvavik and Caruso, 2005, pp. 65-66).

Comparisons with the 2005 report by Kvavik and Caruso indicated that over 70% of the undergraduate students interviewed in the ECAR study indicated a preference for at least a “moderate” use of IT as a means of instruction (p. 58). In the present survey, faculty in the Department of Leadership expressed an even stronger preference, with over 80% preferring at least “moderate” use, and the majority of those indicating a preference for the “extensive” use, of technology in the classroom. Although, the DL faculty did not assess the level of impact on their students’ learning as highly as was described in the previous paragraph, they did indicate a general liking for IT as an instructional tool, felt it had a positive impact on their teaching, and, for the most part, expressed confidence about their abilities to use IT well. While the ECAR students rated “convenience” as the chief benefit offered through IT, the DL faculty gave their strongest scores to the ways in which IT has helped them communicate better with their students.

The age range of those who responded to the faculty survey was high, with most of the respondents being 50 or over. The graduate students in the Department of Leadership, who responded to the concomitant survey (spring 2006), reported a range of lower ages but still tended to be high, with over 40% of them being 40 or over. The range of teaching experience among the faculty was considerable. While the majority of responses were from faculty who had been teaching at the graduate level for less than five years, there also were several who reported that they had been teaching for more than 12 years, with higher proportions of these among full-time (FT) faculty more than part-time (PT) faculty, and among Higher and Adult Education (HAE) faculty more than Kindergarten-12th grade (K12) faculty. The majority of faculty who responded to the survey were PT faculty more than FT, and HAE more than K12 faculty.

In the concomitant surveys, majorities of both students and faculty reported ownership of a computer. Students, however, reported a higher rate of laptop ownership, and were more likely to own other types of electronic devices that could be used in relationship to coursework. Both students and faculty indicated that they used electronic devices a fair amount for writing documents for their coursework, but the highest score concerning the use of technology was related to e-mail, for which the faculty scored significantly higher than did the student population. FT Faculty consistently scored higher in this section than did PT faculty and with the exception of word processing (on which they were practically identical) K12 faculty

consistently scored higher than did HAE faculty in the use of the various applications made available through IT. Perhaps most important, in the section on the uses of IT, both faculty and students reported that they did not use several features that are available to those who are fluent in the multiple uses of IT. This “non-use” pattern was prevalent in both the students’ and the faculty’s reports on skills such as creating graphics; creating and editing audio/video; and creating web pages.

In the section in which respondents self-rated their IT skills, the faculty and students were very close in their word processing skills, but for every other application that was reported, the students rated their abilities higher. In this same section, FT and PT faculty displayed a similar pattern – almost identical on word processing, but FT faculty feeling more adept than PT faculty at almost all other applications. The K12 and HAE faculty members also were very similar on their scores for word processing, but K12 faculty rated themselves higher on all other applications. When asked to compare their skills to those of their peers, however, HAE faculty were much more likely to rate themselves as “much more skilled” than were K12 faculty.

In response to the questions regarding broadband access and how they accessed the Internet, faculty members were much more likely than students to depend on school-operated wired broadband service, whereas students were more likely to depend on commercial broadband service. PT faculty indicated a much higher level of dependence on school-operated wired broadband service, while FT faculty indicated a preference for commercial broadband service. Neither the faculty nor the student groups reported much use of wireless technology as their primary means of access to the Internet. Among the faculty that did report use of a wireless network, however, both FT and PT faculty were most likely to use the school-operated wireless network.

Regarding the use of technology in the classroom, almost half of both the faculty and student populations preferred the “extensive” use of technology (with the faculty reporting a slightly stronger preference). The faculty, however, displayed a decided split in their preferences – with FT faculty expressing this preference at twice the rate of PT faculty, and K12 faculty much more likely than HAE faculty to indicate a preference for using technology extensively.

Whereas only about half of the faculty had used course management systems (CMS) to teach their courses, almost three quarters of the students had taken courses in which a CMS was used. Among those who had used a CMS, both the faculty and student groups expressed very positive feelings about the experience (with students displaying an even stronger liking for the technology). Again, on this concern, faculty displayed a wide range in their preferences – FT faculty were twice as likely as PT faculty to have used a CMS, and were more than twice as likely to have reported positive responses to those experiences. Among the HAE and K12 faculty groups, usage of the tool was about equal, but half of the K12 faculty was neutral in their evaluation of the technique, while a fifth of the HAE faculty expressed a negative impression.

In responding to the question of whether IT had improved their respective roles as teachers and learners, both the faculty and the students groups answered the question very positively. Overall, both K12 and HAE faculty groups displayed high scores on this question, but K12 faculty generally presented a stronger response. For the most part, both faculty and students in the department appeared to be quite happy about the IT resources available to them. K12 faculty, however, did express some concern regarding the age of their hardware and software, slow or inadequate network availability, and inadequate technical assistance. In spite of the positive feelings about their IT abilities, both the faculty and student groups expressed a desire for more training with respect to how IT can improve their coursework.

In light of the information provided by the faculty and students in the Department of Leadership, the following recommendations are submitted by this writer for consideration by the department.

- ◇ The department should help make more training in IT available for both students and faculty. For students, this might involve changes in the core curriculum (e.g. requiring a course specific to these skills). For faculty, this might involve various training formats – and a stronger relationship with the Advanced Learning Center (ALC) – to increase both ease and confidence levels in using IT.
- ◇ The department should encourage faculty to take advantage of the ALC’s fellowship program for helping faculty implement IT more fully into the curriculum. On a larger scale, the department should submit an application to the ALC, seeking one of the *Innovation to Excellence in Learning* grants for next year. Please see “TAF Innovation Grants” at this site, <http://alc.memphis.edu>, for more information related to these grants.
- ◇ The department should consider hiring a resource person specifically charged with the responsibility of helping faculty become more adept and more comfortable in the implementation of IT resources. Other organizations (e.g. school systems) have experienced good results by using such a position to accentuate and develop this initiative as a priority within the organization.
- ◇ The department should provide training with respect to creating graphics, creating and editing audio / video, creating web pages, and use of online library resources. These are IT skills that could add markedly to the educational experience for both faculty and students.
- ◇ The department should offer training for part-time faculty members in order to help them better understand the various ways in which technology can be used in the classroom – e.g. some part-time faculty may need assistance in learning how to use a course management system effectively. As students develop increased expectations regarding their instructors’ IT skills, it will be important that part-time, as well as full-time, faculty are able to feel confident about their abilities.
- ◇ In order to better measure IT fluency on an ongoing basis, the department should consider implementation of a pre-test / post-test process for students involved in the department’s programs.
- ◇ The department should conduct this survey again. The writer would recommend doing it annually until the department feels it has sufficient data to be able to construct a sound longitudinal view of the multiple issues addressed herein. To improve the response rate among students, it would be good to explore ways that faculty might encourage increased participation among the various student populations.

Knowledge and Use of Information Technology in Leadership Education

The document that follows is a description and analysis of research that was conducted in partial completion of the requirements for the Doctorate of Education degree program in the Department of Leadership at the University of Memphis during the semester of spring 2006.

The history of higher education in America is rich in heritage – a heritage that has developed as institutions of higher learning have established their place in society and in the lives of those who comprise their populace. Higher education today, however, is in the midst of a significant upheaval – one born of at least three related, but distinct, forces. The first of these is the ever-increasing ubiquity of information technology (IT) in society; the second – likely in response to the first – are the changes related to the students who are engaged in higher education; and the third – likely in response to the previous two – are the concomitant changes occurring in the faculty who strive to respond to those influences. The impact of these three forces is causing significant shifts in the nature of how learning occurs across the many venues of higher education. Seely Brown (2002), commenting on this upheaval, averred that the transformation in which higher education is involved is as paradigmatic as was the introduction of electricity to the learning place.

The impact of information technology

In 1987, Chickering and Gamson prescribed a set of principles for good practice in teaching. Nine years later, Chickering collaborated with Ehrmann to expand these principles in light of the growing influence of IT in the educational forum. These principles are summarized as follows:

- ◇ IT encourages communication between students and faculty by increasing the avenues for various types of synchronous and asynchronous communication – e-mail, computer conferencing, web access all make new ways of relating possible;
- ◇ IT fosters reciprocity and cooperation among students – e-mail, discussion boards, and instant messaging present diverse venues for such to occur;
- ◇ IT promotes active learning techniques by offering students opportunities to engage in simulations, virtual reality, and augmented reality – all of which provide opportunities for active learning;
- ◇ IT provides increased opportunities for feedback to students by improving the range of communication tools that can be used by faculty;
- ◇ IT maximizes time-on-task – at the same time that IT can make studying more efficient, it also can draw the student into exploring issues further through the use of hotlinks and the ease of accessing diverse materials;
- ◇ IT promotes high expectations by fostering improved skills of analysis, synthesis, application, and evaluation;
- ◇ IT accommodates diverse talents and ways of learning and, thus, can be used to respond to diverse needs and levels of skill (Chickering & Ehrmann, 1996).

In the literature addressing these changes, academicians, with varying points of emphasis, repeatedly have identified benefits that IT brings to the processes of education. Seely Brown (2002) suggested that the changes brought on by IT in the classroom involved the introduction of a new medium that invites mutuality into the learning process. Bollentin (1998) emphasized the

flexibility of IT and its contribution in making education more accessible – not restricted just to the classroom, but available in various distance formats. Barone (2003) discussed the ways in which IT can be used to deepen the learning experience by providing an active learning environment that provides a context for what is learned – an environment that is social and collaborative, that meets the student where s/he is in terms of skills and knowledge, and that is in the student’s span of control.

In looking at ways in which IT could contribute to changes in curriculum, Clayton-Pedersen and O’Neill (2005) accentuated how IT can be used to engage students in the construction of knowledge. They stated that opportunities to engage in debates on real-world topics of importance, and the self awareness that comes from assignments related to personal discovery, more likely produce a graduate who is ready to apply him/herself in the world. Rickard and Oblinger (2003) stressed that IT can be used to accommodate different learning styles as well as different learning needs, to adjust the pace of learning for the individual learner, and to provide opportunities for people with special needs (e.g. the disabled and the immigrant populations).

Finally, Perry (2004) emphasized how various tools made available through IT can deepen the educational process. She highlighted course management systems that engage learners on several levels; made note of the web-based modules that are being developed by various publishers; promoted the proliferation of digital based libraries that are making sources of knowledge increasingly available to a broader populace; emphasized the arsenal of tools that IT makes available to enhance learners’ engagement; and discussed how IT makes possible better sequencing and alignment of programmatic curricula, as well as cross-disciplinary opportunities for learning.

The impact of changes in the learner community

Rickard and Oblinger (2003), stated that, in the opinion of those who attended a recent symposium for higher education convened by Microsoft Corporation, “learners, not technology, are changing education” (p. 8). They went on to state that these learners exhibit different characteristics than learners of the past – characteristics for which IT is uniquely situated to make a substantial contribution. Prensky (2001), acknowledging that today’s students think and process information differently than students of the past asserted, “Our students have changed radically. Today’s students are no longer the people our educational system was designed to teach.” (p. 1). This position has been reinforced by several like-minded educators.

In describing today’s learners, Dede (2005) emphasized their comfort with using various forms of multiple types of media; their engagement in communal learning and their appreciation for knowledge residing in the community as well as in the individual; their willingness to engage in mentoring and personal reflection as well as experiential learning; and their interest in being involved in the co-design of customized learning experiences. Frand (2000), in noting the characteristics of the information-age mindset, stated that for today’s learners: the computer is not exceptional, but rather a part of everyday life; the interactivity of the internet is more attractive than television; the ability to know what is real is more difficult to achieve; what one is able to do is more important than what one knows; trial-and-error is an effective way of learning; the ability to multitask is a commonplace skill; typing is a more useful skill than handwriting; staying connected with others is vitally important; there is an expectation of immediate gratification; and members of this group frequently demonstrate limited interest in distinguishing between who creates, who owns, and who uses information.

Barone (2003) expressed similar observations by describing today's students as learners who want to try things, not just hear about them in a classroom – active, not passive, learners. She pointed out that today's students are both visual and social in their inclinations, desiring a context in which they can shape their understanding. She added that this group is accustomed to using technology both to organize and to integrate various types of knowledge in such a way as to meet their individual preferences and styles. Oblinger (2003) and Oblinger (2005) echoed many of the observations stated above and added the following portrayal of today's learners: they are drawn to group activities and like staying connected; they feel close to their parents and generally endorse the value system of their parents; they like the idea of being smart and grades are important; their learning style generally is experiential and they like to tinker with new technologies; they are digitally literate and are more involved in house- and homework, less in watching television; they are racially and ethnically diverse; and they generally have a positive attitude and are optimistic and goal-oriented.

The impact of changes in the faculty community

The other side of the transformation in higher education are the faculty members who, historically, have been the purveyors of information in the educational setting. In responding to the changes occurring in the learner population, many educators are identifying a need for change in the faculty as well – perhaps best captured by Frand (2000) when he wrote that faculty need to become, “not just a sage-on-the-stage, but a guide-on-the-side” (p. 24). In order to be able to provide this function, Dede (2005) suggests that faculty require a new set of capabilities – to be able to work with students in several new ways: in co-designing learning experiences; in fostering a communal environment in which students can learn from one another; in employing learning-by-doing pedagogies that capitalize on the use of IT to provide virtual and augmented reality opportunities; and in applying newer forms of assessment that are more diverse than the traditional measures provided by tests and papers.

These changes will not occur without conscious attention and effort on the part of those in higher education. Ayers (2005) discussed the resistance of some faculty members to take advantage of opportunities that are provided for them by the assortment of technology that many campuses have purchased. Similarly in their consideration of IT in higher education, Rickard and Oblinger (2003) discussed faculty members' fear of failure and their lack of time to develop, not just new lessons, but new forms of lessons – this complicated further by the frequent lack of institutional rewards for making such an effort. Perry (2004) noted the inequities apparent in the huge amounts of money institutions have spent for IT in comparison to how vastly underused these tools are by the faculty for whom they are intended.

The changes being suggested with respect to faculty processes, in many cases, would be paradigmatic. Citing the work of Barr and Tagg (1995), the Teaching Effectiveness Program at the University of Oregon captured many of the elements of this change of paradigms in the schema offered below:

Table 1
A New Paradigm for Undergraduate Education

The Instruction Paradigm—Mission and Purposes	The Learning Paradigm—Mission and Purposes
<ul style="list-style-type: none"> • Provide/deliver instruction • Transfer knowledge from faculty to students • Offer courses and programs • Improve the quality of instruction • Achieve access for diverse students 	<ul style="list-style-type: none"> • Produce learning • Elicit student discovery and construction of knowledge • Create powerful learning environments • Improve the quality of learning • Achieve success for diverse students
The Instruction Paradigm—Teaching/Learning Structures	The Learning Paradigm—Teaching/Learning Structures
<ul style="list-style-type: none"> • Atomistic; parts prior to whole • Time held constant, learning varies • 50 minute lecture, 3-unit course • Classes start/end at same time • One teacher, one classroom • Independent disciplines, departments • Covering material • End-of-course assessment • Grading within classes by instructors • Private assessment • Degree equals accumulated credit hours 	<ul style="list-style-type: none"> • Holistic; whole prior to parts • Learning held constant, time varies • Learning environments • Environment ready when student is • Whatever learning experience works • Cross discipline/department collaboration • Specific learning results • Pre/during/post assessments • External evaluations of learning • Public assessment • Degree equals demonstrated knowledge and skills
The Instruction Paradigm—Learning Theory	The Learning Paradigm—Learning Theory
<ul style="list-style-type: none"> • Knowledge exists “out there” • Knowledge comes in “chunks” and “bits” delivered by instructors • Learning is cumulative and linear • Fits the storehouse of knowledge metaphor • Learning is teacher centered and controlled • “Live” teacher, “live” students required • The classroom and learning are competitive and individualistic • Talent and ability are rare 	<ul style="list-style-type: none"> • Knowledge exists in each person’s mind and is shaped by individual experiences • Knowledge is constructed, created, and “gotten” • Learning is a nesting and interacting of frameworks • Fits learning how to ride a bicycle metaphor • Learning is student centered and controlled • “Active” learner is required, but not “live” teacher • Learning environments and learning

	<p>are cooperative, collaborative, and supportive</p> <ul style="list-style-type: none"> • Talent and ability are abundant
The Instruction Paradigm—Nature of Roles	The Learning Paradigm— Nature of Roles
<ul style="list-style-type: none"> • Faculty are primarily lecturers • Faculty and students act independently and in isolation • Teachers classify and sort students • Staff serve/support faculty and the process of instruction • Any expert can teach • Line governance; independent actors 	<ul style="list-style-type: none"> • Faculty are primarily designers of learning methods and environments • Faculty and students work in teams with each other and other staff • Teachers develop every student’s competencies and talents • All staff are educators who produce student learning and success • Empowering learning is challenging and complex • Shared governance; teamwork

(as cited by University of Oregon, 2005, p. 1)

In spite of problems that could impinge implementation of the necessary changes, many educators express hope for the ways in which IT can improve higher education, and for the unique role faculty can have in forging these frontiers. As the outcome of their study concerning student opinions of what qualities are inherent in good teachers, Hartman, Moskal and Dziuban (2005) reported the following results: the ability to facilitate, not dictate, student learning; the knowledge of how to use both oneself and educational tools in order to communicate effectively; the capacity to be authentic in relationships with students; the ability to organize courses well; the professionalism to be respectful and concerned toward each student; and the commitment to assess and evaluate fairly and effectively.

IT can further each of these goals but, left to itself, cannot realize any of them. In order for IT to be effective in the learning process, faculty will need to know how to capitalize on all that IT has to offer. This likely will require training and institutional support if it is to happen – thus, the impetus for conducting the survey on which this study is constructed.

The survey of faculty in the Department of Leadership

This project was a research study that explored the knowledge and use of information technology among faculty members in the Department of Leadership at the University of Memphis. The project was established to complement the study being conducted by a fellow student to explore the knowledge and use of IT among graduate students in the Department of Leadership, to consider patterns of use by faculty groups within the department, and to supplement the information provided by the EDUCAUSE Center for Applied Research (ECAR) in its recent annual surveys concerning the knowledge and use of IT among undergraduate populations.

By evaluating this issue from the faculty side of the teaching dynamic, the writer is hopeful that this study can help clarify how well the Department of Leadership is responding to a student environment that is rapidly changing. It is intended that the information presented by this survey will be of importance to the department in terms of its charge to prepare educators of

the future and to assess its own methods of pedagogy in accomplishing that task. More specifically, it is intended that the information gathered in this study will be of use to the department in its consideration of staffing needs, its provision of opportunities for professional development, and in the development of its curriculum.

Many of the key findings of the recent reports distributed by ECAR (following its surveys of undergraduate students in 2004 and 2005) substantiated the importance of looking at the knowledge and practices of faculty relative to use of IT in the classroom. Since the 2005 survey involved a much larger sample than the one in 2004, the 2005 survey was used as the main undergraduate benchmark for comparing the results of this survey. Some of the key results presented in the report on the ECAR survey indicated that: (1) students preferred at least a moderate amount of use of technology in their coursework; (2) students saw IT as making a positive contribution to both the teaching and learning processes; (3) seniors and older students tended to prefer the use of more technology in courses; (4) students, overall, gave instructors good reviews in their use of technology; (5) students who perceived their instructors to be skilled in their use of IT reported being more engaged in courses, more interested in subject matter, and more able to understand complex concepts; and (6) in order of priority, participants in the study rated the benefits of technology to be convenience, the ability to communicate better with the instructor and other students (connection), management of course activities (control), and finally improved student learning (Kvavik & Caruso, 2005).

The analysis done by Kvavik and Caruso (2005) suggested several reasons that the present study could be important to those engaged in higher education. Over 70% of the students interviewed in that study indicated a preference for at least a moderate use of IT as a means of instruction (p. 58). Furthermore, as students' perception of their instructors' IT skills increased, so did the students' engagement in the coursework, their interest in the subject matter, and their ability to understand complex matters – at least, as measured by their self-evaluation. Among those who strongly agreed that their instructors used IT well, 68.9% indicated greater engagement in their coursework (p. 65), 85.5% indicated increased interest in the subject matter (p. 65), and 73.3% indicated increased understanding of complex concepts (p. 66). These numbers underscored the importance of developing faculty who both know about, and use, information technology as a pedagogical tool in their instruction.

The present study was conducted by electronically distributing a survey instrument to all faculty members (full- and part-time) affiliated with the Department of Leadership at the University of Memphis. Faculty response to the distribution of the instrument was voluntary and confidential, with no means for tracking individual responses to the participants, and no material benefit accrued by participation, nor penalty imparted for lack of participation. The instrument that was used for the survey was an adaptation of the one that was used by ECAR in studying the undergraduate population in 2005. Permission was secured from ECAR for the use of its instrument and the appropriate modifications necessary to apply it to the faculty community (See Appendix A). Survey Monkey was used as the online tool for collecting the responses of the faculty. The instrument was distributed from the office of the chair of the Department of Leadership, but was distributed from the desk of the administrative assistant in order to reduce the likelihood of faculty feeling coerced to participate. Faculty members were given a two-week period in which they could respond, with two e-mail reminders sent out during the two-week time frame to remind and encourage full participation.

The analysis of the data gathered in this survey was divided into four sections: (1) a comparison of the results of this survey with the key findings of the 2005 ECAR study; (2) a

comparison of the results of this survey with the concomitant survey done of the graduate student population in the Department of Leadership; (3) a comparison of the responses offered by full-time (FT) faculty vis-à-vis the part-time (PT) faculty in the department; and (4) a comparison of the responses of the Higher /Adult Education (HAE) faculty as compared to those of the Kindergarten -12th grade (K12) faculty. It was the hope of this author that these four frameworks would provide the Department of Leadership with valuable information relative to its mission of preparing the educational leaders of the future.

There were a number of good reasons for initiating this study in the Department of Leadership: (1) as the department strives to meet the needs of its student population, it is critical that it be informed and prepared to engage those students through the use of technology. This consideration may even become a fundamental consideration in choices that are made with respect to hiring of faculty and staff; (2) professional development for present faculty may become the most critical factor in helping them develop and maintain the skills necessary to be able to meet the changing needs of the learning environment; and (3) in its consideration of curriculum development, the Department of Leadership may choose to foster increased use of technology – both as a means, and as a product, of an educational process that encourages meaningful and transformative learning. By engaging in such a transformation itself, the department would help prepare its students for a world which increasingly is shaped by the means, and the impact, of information technology.

Results / Limitations

The results of the study are provided in the ensuing section, divided into four segments: (1) a comparison of the results of this survey with the key findings of the 2005 ECAR study; (2) a comparison of the results of this survey with the concomitant one done of the graduate student population in the Department of Leadership; (3) a comparison of the responses offered by full-time faculty vis-à-vis the part-time faculty in the department; and (4) a comparison of the responses of the Higher /Adult Education faculty as compared to those of the Kindergarten -12th grade faculty.

It is noted that the study was affected by a few important constraints, the most notable of which were those related to limited numbers of respondents:

- ◇ Of the 42 surveys that were sent out, 21 faculty members replied by submitting a complete survey. If the survey is done again, it would be good to assess what factors might have kept 50% of the faculty from responding.
- ◇ In the assessment of the results of this survey vis-a-vis those of the student population within the department, the opportunity for comparison was restricted by a limited number of responses from students in divisions other than Higher / Adult Education;
- ◇ In the intra-department contrast of faculty responses, the sample size necessarily was small due to the size of the department. Although the numbers may have been too small to provide statistically significant data, the writer included the comparisons of these groups in order to provide the department with an anecdotal glimpse of issues it may want to explore more fully in future studies;
- ◇ In order to assure confidentiality for the respondents, further demographic differentiation within the department was adjudged inappropriate. This restriction prevented further comparisons from being made due to limitations in the information available regarding the make-up of the sample.

Findings – Section I

Department of Leadership Faculty versus Undergraduate Student Responses to ECAR Survey

Please note:

(On some indicators, no direct comparisons were possible because of the way in which the questions were asked of these two different populations.)

(For all scales that employed point systems to rate the participants' responses, the higher numbers on the scale indicated a stronger, or more positive, response.)

The survey addressed in this paper was conducted among faculty members who teach both at the graduate and the undergraduate level in the Department of Leadership at the University of Memphis. The impetus for this study was the survey done by the EDUCAUSE Center for Applied Research (ECAR) – a study that surveyed a national sample of undergraduate students in both 2004 and 2005 with respect to their use and knowledge of information technology. Although it is probable there are important differences in the degree and the sophistication of IT skills employed by graduate and undergraduate populations, the availability of data from the ECAR study presents a unique window through which to view the results of this study.

The paper that reported the findings of the ECAR survey (Kvavik & Caruso, 2005) offered several key findings that present an interesting backdrop for the present study of faculty in the Department of Leadership (DL faculty). Below are presented a number of the key findings from the ECAR survey, followed by comparisons (in italics) to the responses of the faculty involved in this survey.

With respect to student use and skill with IT, the findings of the ECAR survey (Kvavik & Caruso, 2005, p. 29) included:

- ◇ Fully 96.1% of seniors and freshmen in these 63 institutions own computers. *DL faculty reported ownership rates of 90.5% for desktop computers and 61.95% for laptops.*
- ◇ Laptop ownership in the 2005 study is 55.6%, well above the 46.8% ownership of laptops in the 2004 study. Of students in this study who own laptops, 14.1% bring them to class. *76.2% of the DL faculty stated that they do not encourage students to bring their laptops to class.*
- ◇ Students using modems uniformly report that they have more problems using technology and are less likely to want to take courses that use technology. *On the one hand, DL faculty who relied solely on modem access expressed a positive attitude toward technology and its use in the classroom; on the other hand, DL faculty who primarily used broadband access expressed even more positive scores for each of these indicators.*
- ◇ Students use technology primarily for convenience and communications, for both their academic and social lives. *DL faculty also rated communication very high – 76.2% of them responded that IT helped them communicate with students. A smaller percentage (47.6%) felt that IT was beneficial for providing convenience.*
- ◇ Almost 90% of the students have access to broadband. *All of the DL faculty members (100%) stated that they have access to broadband technology.*

- ◇ Virtually all students report using computers primarily for writing documents and e-mail, followed by surfing the Internet for coursework and studying. 88% use an electronic library resource to complete a class assignment. *DL faculty use technology primarily for e-mail, followed by writing documents and classroom activities. Some faculty members also indicated that they use a library resource to design course assignments, but this was not one of the higher scores for faculty.*
- ◇ A student's major is a significant factor in determining his or her use of specialized application such as PowerPoint and spreadsheets. *The only pertinent comparison would be the information provided earlier in this document comparing the different patterns of usage described by the faculty who teach in Higher and Adult Education compared to those who teach in K-12 Education.*
- ◇ Students report that they use computers on average between 11 and 15 hours per week (excluding cell phone use). *DL faculty indicated a higher pattern of usage – 50% stating that they use the computer more than 20 hours per week.*
- ◇ Students rate themselves as highly skilled in word processing and use of the operating system. They rate themselves as least skilled in creating graphics and Web pages, and creating or editing video-audio. *DL faculty rate themselves highest in the areas of word processing, presentation software, using online library resources, and spreadsheets. They rate themselves least skilled at creating and editing video/audio and creating web pages.*
- ◇ 36% of the students believe they do not need additional training to use IT in their courses. *The majority of DL faculty either agreed (38%) or strongly agreed (19%) that the school needs to provide more training on how to use IT in coursework.*
- ◇ Despite the fact that the self-report that they are often more skilled on many applications, older students more often say they need more training than younger students do. *Among the DL faculty, the 50-64 age group expressed the greatest interest for more training in IT skills. The younger, as well as the older, faculty members expressed a markedly weaker response to this inquiry.*

With respect to the use of IT in coursework, the ECAR report (Kvavik & Caruso, 2005, p. 57) identified several more key findings. These included:

- ◇ Students prefer a moderate amount of technology in courses. *Per their report, the highest percentage of DL faculty (47%) preferred “extensive” use of technology, followed by 33.3% preferring “moderate” use.*
- ◇ Students see IT in courses as making a positive contribution to teaching and learning. *DL faculty also gave positive scores to the impact that IT has on both the teaching and the learning processes.*
- ◇ Seniors and older students tend to prefer more technology in courses than freshmen and the youngest students in the study. *The preference for using technology in courses among DL faculty was evenly spread across the various age groups, with the majority of faculty preferring “extensive” use of technology.*
- ◇ Engineering, business, and life sciences students prefer more technology in courses than students in other disciplines. *There were no appropriate comparisons to be made in the data gathered from the DL faculty.*
- ◇ Overall, students give their instructors good marks in their use of technology in courses. Students who perceive instructors' IT skills to be effective report being

engaged increasingly in the course, being more interested in the subject matter, and understanding complex concepts better. *52.4% of the DL faculty members believe that the use of IT has improved their teaching. They give the highest scores to the ways in which IT has improved communication between them and their students. They appear less convinced that the technology has improved the understanding of complex concepts.*

- ◇ Students who consider themselves more skilled in using IT than their peers also see themselves as more engaged and interested in the course and subject matter. These students also believe that they are better able to use IT to help them understand complex concepts. *DL faculty did not report that they had observed a relationship between their own IT skills and its effects on their students with respect to the indicators of engagement, interest, or comprehension. Although some of the faculty expressed positive feelings about these effects, the primary faculty response to these questions was a neutral one.*
- ◇ According to survey respondents, the primary benefit of technology used in courses is convenience, followed by communication with the instructor and other students (connection), management of course activities (control), and improved student learning. *DL faculty rate these benefits in a different order – connection, then convenience, then control. The faculty appears to consider these gains as significant toward improved teaching.*
- ◇ Student concerns and expectations include ready access to and reliability of information technologies, bandwidth, and online resources and services. *Overall, DL faculty seemed to be pleased with the state of IT readiness in the department in which they work. A few, as was indicated earlier, expressed concerns about aging soft- and hardware, slow or inadequate network access, and inadequate technical assistance, but these were not the majority of the faculty who responded to the survey.*

Finally, in a separate section of the report on course management systems (CMS), Kvavik and Caruso (2005, p. 75) explicated these findings:

- ◇ Of the 72% of students who report using a course management system, more than 75% report a positive or very positive experience with it. *Just over half (52.4%) of the DL faculty have used a CMS in teaching a course. Of those who have used such a tool, 66.6% of them rate the experience as either positive or very positive.*
- ◇ The more students use a CMS, the more they like it. *There were no appropriate comparisons to be made in the data gathered from the DL faculty.*
- ◇ Students most value tracking grades on assignments and tests and accessing sample exams and quizzes in a CMS. *In the scores provided by the DL faculty, tracking grades and accessing sample exams and quizzes were two of the less important benefits offered by use of a CMS. The faculty gave much stronger scores to providing the syllabus, and sharing online readings and other learning materials with students.*
- ◇ Students least value online discussions in a CMS. *The overall faculty score for online discussions was not high, but the scores were evenly spread from very positive to very negative on this item.*
- ◇ Perceptions about instructor IT skills are strongly associated with student satisfaction with course management systems. *DL faculty who judged their ability to use course*

management systems well generally felt positive about the impact of this tool in the classroom..

- ◇ Students who agree or agree strongly that courses using IT allow them to take greater control of their course activities have the most positive experience with a CMS. *There were no appropriate comparisons to be made in the data gathered from the DL faculty.*
- ◇ Students report that using a CMS improves their learning. *There were no appropriate comparisons to be made in the data gathered from the DL faculty.*

Findings – Section II

Faculty versus Graduate Student Responses within the Department of Leadership

(Please note that for all scales that employed point systems to rate the participants' responses, the higher numbers on the scale indicated a stronger, or more positive, response.)

In the section of the survey that was related to the respondents' use of electronic devices, a number of interesting similarities and differences were observed between the data from this study and that from the student population in the same department:

- Whereas 79.7% of the students reported ownership of a desktop computer; the faculty reported a rate of 90.5%. For laptop computers, however, the prevalence was just the reverse – students at 76.3% and faculty at 61.9%. With respect to other electronic equipment, students were more likely to own personal digital assistants (PDA's) (32.2% versus the faculty's 19%), cell or digital phones (91.5% versus the faculty's 76.2%), and electronic music devices (22% versus the faculty's 9.5%).
- Both faculty members and students reported spending significant amounts of time using electronic devices – 50% of the faculty, and 48.3% of the students, reported using electronic devices more than 20 hours per week. For the faculty, however, there was a gradual reduction moving down the scale of hours whereas, for the students, there was a more precipitous decline.
- When reporting the numbers of hours per week that they used electronic devices for various purposes, the students demonstrated higher usage patterns. On an 8-point scale, students generated an overall score of 4.63 in describing how much they use electronic devices in their studies, while faculty, in rating their use of electronic devices in the teaching process, scored only 3.59. Both students and faculty reported using electronic devices a fair amount to write documents for their coursework (students – 4.08 versus faculty – 3.59). However, the highest score in this section was given to the faculty's use of technology for e-mail, for which they showed a score of 5.09 versus the students' score of 4.47.
- Regarding the number of hours spent in using electronic devices for various tasks, students and faculty reported very similar patterns of usage. Students reported their highest figure for creating spreadsheets or charts – 2.53 versus the faculty's 2.50 (again on an 8-point scale), while faculty reported the highest use for creating presentations (2.91 versus the students' 2.88). In this researcher's estimation, however, these results likely were skewed by the fact that the survey did not provide a separate line item for using the devices for word processing tasks. Most notable in this section was that both faculty and students reported *not* using several features related to IT capability: creating graphics – 67% of the faculty and 51% of the students reported that they “do not use”; creating and editing audio/video – 95% of the faculty and 87% of the students “do not use”; and creating web pages – 82% of the faculty and 75% of the students “do not use”.

- In rating their skill levels with respect to various computer applications, the faculty and students were very close in their estimation of their word processing skills (4.64 versus 4.61 on a 5-point scale). However, for every other application that was reported, the students rated their abilities higher than the faculty rated their own. These included such items as the use of spreadsheets (students – 3.90 versus faculty 3.50), presentation software (students – 4.29 versus faculty – 3.82), course management systems (students – 3.18 versus faculty – 2.41), and perhaps most surprising, use of online library resources (students – 4.07 versus faculty – 3.59). Students also reported a higher level of confidence related to issues involving operating systems, computer maintenance, and security issues.
- Both faculty and students were rather modest about their skill levels – 50% of faculty members reporting that they were “at about the same skill level” as their peers while 40% of the students made the same estimation regarding their abilities. Among those who rated themselves “much more skilled” than their peers, however, the faculty demonstrated notably more confidence – 22.7% versus the students’ 11.7%.
- Regarding their reasons for learning various computer applications, most of the faculty reported learning how to do spreadsheets as a result of their own personal interest, and reported learning how to use presentation software to improve their teaching. Students, on the other hand, reported learning both of those types of applications more for employment purposes than for coursework. As indicated earlier, the predominant response for both faculty and students regarding several types of applications was that they don’t use those applications (e.g. graphics, creating and editing audio/video, and creating web pages).
- Faculty members were much more likely to depend on school-operated wired broadband service (45.5% versus the students’ 16.7%) for fast access whereas students were more likely to depend on commercial broadband service (38.3% versus the faculty’s 18.2%). Neither group reported much use of wireless technology as their primary access to the Internet.
- Both faculty and students reported that their two primary concerns regarding IT were computer viruses (faculty – 2.36 versus students – 2.75 on a 4-point scale) and spam (faculty – 2.68 versus students – 2.63). Notable in this section of the questionnaire was the high degree of “*non-concern*”. This was the most selected response for both faculty and students in such diverse areas as: inadequate access to printing, the age of hardware and software available to them, slow or inadequate access to the Internet, and inadequate technical assistance on campus. For the most part, both faculty and students in the department appeared to be quite happy about the IT resources available to them.

The next section of the survey addressed the use of technology in coursework from the respective positions of the faculty and the students:

- The preferences related to how much technology should be used were remarkably similar between the two groups: 47.6% of the faculty preferring to use “technology extensively” versus 43.1% of the students preferring “extensive” use; 33.3% of the faculty, versus 39.7% of the students, preferring “moderate” use of technology; and 19% of faculty, versus 13.8% of students, preferring little use of technology in their classes.

- Both faculty and students expressed very positive opinions regarding their respective roles in using technology in coursework. In response to a question of whether students are more engaged in courses that use technology, faculty recorded a score of 3.67 versus the students' 3.47 (on a 5-point scale); regarding the faculty's ability to use technology well (faculty – 3.81 versus students – 3.68); and as to whether use of technology has increased the students' interest (faculty – 3.38 versus students – 3.49). In spite of those high scores, both groups expressed interest in more training with respect to how IT can improve their coursework (faculty – 3.62 versus students – 3.27).
- Likewise, both groups expressed positive regard for the various ways in which IT can help students in their work. Again, on a 5-point scale, the scores consistently were positive from both groups on several indicators: regarding whether IT helps students understand complex or abstract concepts (faculty – 3.38 versus students – 3.41); with respect to improved communication with the instructor (faculty – 4.14 versus students – 4.21); improved communication with classmates (faculty – 4.00 versus students – 4.02); and improved feedback from instructors (faculty 4.24 versus students – 4.00). One other indicator that was reported was whether the students felt more control over their learning as a result of the use of IT. Faculty members gave this a score of 3.62 versus the students' 3.56, indicating that both felt IT does offer students an increased sense of controlling their own learning processes.
- Whereas only 52.4% of the faculty had used course management systems (CMS) to teach their courses, 72.4% of the students had taken courses in which a CMS was used. Among the faculty that had used a CMS, 66.6% of them reported positive feelings about the use of such a tool, while among the student population, the rate was even higher – 78.1%. When asked about the usefulness of various features made available through a CMS, the students reported higher scores for every indicator than did the faculty. Rated on a 4-point scale, some of the most significant of these features included: access to the course syllabus (faculty – 3.00 versus students – 3.26); access to online readings (faculty – 2.80 versus students – 3.26); being able to receive, or turn in, assignments online (faculty – 2.70 versus students – 3.26); and sharing information with, or among, students (faculty – 2.80 versus students – 3.26).
- Faculty and students exhibited a different sense of priorities in addressing how IT had been beneficial to the learning process. Whereas faculty gave the highest score to “helped me communicate with my students” at 76.2%, and scored both “convenience” and “improved my teaching” at 47.6%, students scored “convenience” at 66.1%, “helped me communicate with my classmates and instructors” at 49.2%, and “improved my learning” at only 27.1%.
- Regarding whether IT has improved their respective roles as teachers and learners, 71.4% of the faculty answered that question positively, while 61.1% of the students did so.
- The majority of faculty members do not encourage their students to bring their laptops to class (only 23.8% said they encourage this practice). The numbers for students are very similar – only 22.4% report that they take their laptop to class regularly.

The final section of the survey attempted to gather a demographic overview of those who chose to respond to the survey.

- ◆ The gender breakdown among faculty was 52.4% male to 47.6% female, while among students it was 38.6% male and 61.4% female.
- ◆ The age range of faculty who responded was high – 80.9% of those being 50 or over. For students, the range was a little lower, but still high: 40.7% of them between 30-39, 22% of them between 40-49, and 22% of them between 50-59.
- ◆ The range of faculty teaching experience was considerable, but the most common response was from faculty who had been teaching at the graduate level for less than five years (33.3%). The majority of those who responded were not full-time faculty – 57.1% of those who responded reported that they teach part-time, while 42.9 reported teaching full-time. Departmentally, the breakdown was more toward those who teach in Higher and Adult Education than those who teach in K-12 Education – 61.9% reported their affiliation with HIAD, while 38.1 reported their affiliation with K-12.
- ◆ All faculty members who responded to the survey reported that they have broadband access available to them at their place of residence.

Findings – Section III

Full-time versus Part-time Faculty Responses

(Please note that for all scales that employed point systems to rate the participants' responses, the higher numbers on the scale indicated a stronger, or more positive, response.)

There were 9 full-time (FT) and 12 part-time (PT) faculty members who responded to the survey. Although these numbers were small, they demonstrated some interesting differences between the two groups.

In the section of the survey related to the respondents' use of electronic devices, there were several interesting comparisons in the data when comparing the responses of the FT versus the PT faculty.

- Whereas 100% of the FT faculty reported ownership of a desktop computer; the PT faculty reported a rate of 90.9%. For laptop computers, FT faculty also showed higher rates of ownership (FT – 88.9% versus PT – 45.5%). FT faculty also were much more likely to have a wireless adapter (44.4% versus 18.2%), but PT were much more likely to have a cell or digital phone (90.9% versus 55.6%).
- Both FT and PT faculty reported spending significant amounts of time using electronic devices – 55.6% of the FT, and 50% of the PT, reported using them more than 20 hours per week. For both groups, there was a gradual reduction as they moved down the scale of hours.
- When reporting the numbers of hours per week that they used electronic devices for various purposes, the FT faculty demonstrated higher usage patterns. FT faculty generated an overall score of 4.33 on an 8-point scale describing how much they use electronic devices in their studies while PT faculty scored only 3.17. Both FT and PT faculty reported using electronic devices a fair amount to write documents for their coursework (FT – 4.11 versus PT – 3.33), but the highest score in this section, for both groups, was related to their use of e-mail (FT – 5.33 versus PT – 5.00).
- Regarding the number of hours spent in using electronic devices for various tasks, FT and PT faculty reported very different patterns of usage. Whereas PT reported their highest figure for creating spreadsheets or charts – 2.92 versus the FT's 2.11 (again on an 8-point scale), FT faculty reported their highest use of devices for creating presentations (3.78 versus the PT's 2.42). Most notable in this section was that both FT and PT faculty reported *not* using several features related to IT capability: 67% of FT, and 64% of PT, faculty reported that they “do not use” tools for creating graphics; 100% of FT, and 92% of PT, faculty “do not use” devices for creating and editing audio/video; and 67% of FT, and 92% of PT, faculty “do not use” technology for creating web pages.
- In rating their skill levels with respect to various computer applications, the FT and PT faculties were very close in estimation of their word processing skills (4.78 versus 4.50 on a 5-point scale). For most other applications that were reported, the FT faculty rated their abilities higher than did the PT faculty. These included such items as the use of presentation software (FT – 4.11 versus PT – 3.58), and course management systems (FT – 3.11 versus

PT – 1.92). Both indicated a fair amount of use of online library resources (FT – 4.00 versus PT – 3.25). PT faculty, however, reported more confidence in their abilities related to operating systems (3.50 versus the FT’s 2.78) and computer maintenance (2.92 versus the FT’s 2.56).

- Both FT and PT faculty were rather modest about their skill levels – 44.4% of FT members reporting that they were “at about the same skill level” as their peers while 58.3% of the PT faculty made the same estimation regarding their abilities. Among those who rated themselves “much more skilled” than their peers, however, FT faculty demonstrated notably more confidence – 33.3% versus 16.7%.
- Regarding their reasons for learning various computer applications, most of the FT faculty reported that they learned how to do spreadsheets as a result of their own personal interest and that they learned how to use presentation software to improve their teaching. PT faculty also learned how to use presentation software in order to improve their teaching, but indicated that they learned how to use spreadsheets due to other professional activities. As was indicated earlier, the predominant response for both FT and PT faculties regarding their use of several other types of applications (e.g. graphics, creating and editing audio/video, and creating web pages) was that they do not use those applications.
- An interesting paradox was presented in the groups’ responses to the question of their most frequent means of access to the Internet. PT faculty indicated a much higher level of dependence on school-operated wired broadband service (58.3% as compared to 22.2% for the FT faculty), while FT faculty indicated a preference for commercial broadband service (33.3% versus 8.3% for PT faculty). Neither group reported much use of wireless technology as a primary access to the Internet; those that did were reliant on the school-operated wireless network (11.1% for FT versus 8.3% for PT).
- The two primary concerns regarding IT for PT faculty were computer viruses – 2.67 versus 2.00 for FT faculty (on a 4-point scale) – and spam (2.75 versus 2.56 for FT faculty). Notable in this section of the questionnaire was the high degree of “*non-concern*”. This was the most selected response for both FT and PT faculty in such diverse areas as: inadequate access to printing, the age of hardware and software available to them, slow or inadequate access to the Internet, and inadequate technical assistance on campus. For the most part, both faculty groups in the department appeared to be quite happy about the IT resources available to them.

The next section of the survey addressed the use of technology in coursework from the respective positions of the FT and PT faculty:

- The preferences related to how much technology should be used in teaching their courses were somewhat different between the two groups, with 66.7% of FT, versus 33.3% of PT, faculty preferring “extensive” use of technology; 22.2% of FT, versus 41.7% of PT, faculty preferring “moderate” use; and 11.1% of FT, versus 25% of PT, faculty preferring “little” use of technology in their classes.

- Both FT and PT faculty expressed very positive opinions regarding their respective roles in using technology in coursework. In response to the question of whether their students are more engaged in courses that use technology, FT faculty recorded a score of 4.00 versus the PT faculty's 3.42 (on a 5-point scale); regarding the faculty's ability to use technology well (FT – 4.11 versus PT – 3.58); and as to whether use of technology has increased the students' interest (FT – 4.11 versus PT – 2.83). In spite of those high scores, both groups expressed interest in more training with respect to how IT can improve their ability to use technology in their coursework (FT – 3.67 versus PT – 3.58).
- Likewise, both groups expressed positive regard for the various ways in which IT can help students in their work. Again, on a 5-point scale, the scores consistently were positive, from both groups, on several indicators: regarding whether IT helps students understand complex or abstract concepts (FT – 3.67 versus PT – 3.17); with respect to improved communication with the instructor (FT – 4.22 versus PT – 4.08); improved communication with classmates (FT – 4.33 versus PT – 3.75); and improved feedback from instructors (FT – 4.11 versus PT – 4.33). One other question was whether they felt students felt more control over their learning as a result of the use of IT. FT faculty gave this indicator a score of 3.78 versus the PT faculty's 3.50, indicating that both groups felt IT does offer students an increased sense of controlling their own learning processes.
- The split between those who use and don't use course management systems (CMS) was notable between the two groups of faculty. Whereas only 33.3% of the PT faculty had used a CMS to teach their courses, 66.7% of the FT faculty had done so. Among the FT faculty that had used a CMS, 83.3% of them reported positive feelings about the use of such a tool, while among the PT population, only 33.3% had a positive impression. When asked about the usefulness of various features made available through a CMS, both FT and PT faculty expressed positive regard for several of the features: Rated on a 4-point scale, some of the most significant of these features included: access to the course syllabus (FT – 3.00 versus PT – 3.00); access to online readings (FT – 2.67 versus PT – 3.00); online discussion board (FT – 2.67 versus PT – 2.00); and sharing information with, or among, students (FT – 2.67 versus PT – 3.00).
- FT and PT faculty exhibited a different sense of priorities in addressing how IT had benefited the learning process. Whereas PT faculty gave the highest score to "helped me communicate with my students" at 75%, scored "convenience" at 41.7%, and "improved my teaching" at 25%, FT faculty scored both "helped me communicate with my students" and "improved my learning" at 77.8% and "convenience" at 55.6%.
- Regarding whether IT has improved their respective roles as teachers and learners, 77.7% of the FT faculty answered that question positively while 64.6% of the PT faculty did so.
- The majority of both faculty groups indicated that they do not encourage their students to bring their laptops to class. FT faculty, however, were much more likely to have encouraged students to do so (44.4% versus 8.3%).

The final section of the survey attempted to gather a demographic overview of those who chose to respond to the survey.

- ◆ The gender breakdown among the FT and PT faculty groups was 55.6% male and 44.4% female for FT faculty, and 50% male and 50% female for the PT faculty.
- ◆ The age range of faculty who responded was high – 77.7% of the FT faculty, and 83.4% of PT faculty, being 50 or over.
- ◆ The range of teaching experience was considerable, but FT faculty reported more experience overall. Whereas 33.3% of both groups consisted of teachers who have been teaching less than 5 years, FT faculty were much more likely to report that they have been teaching for more than 12 years (55.5% versus 33.4% for PT faculty). Departmentally, the breakdown was more toward those who teach in Higher and Adult Education than those who teach in K-12 Education – 55.6% of the FT reported their affiliation to be with HIAD (versus 66.7% of the PT faculty), while 44.4% of the FT reported their affiliation with K-12 (versus 33.3% for PT faculty).

Findings – Section IV Higher / Adult Education versus K-12 Faculty Responses

(Please note that for all scales that employed point systems to rate the participants' responses, the higher numbers on the scale indicated a stronger, or more positive, response.)

There were 13 Higher / Adult Education (HAE) and 8 K-12 (K12) faculty members who responded to the survey. Although these numbers were small, they demonstrated some interesting differences between the two groups.

In the section of the survey that was related to the respondents' use of electronic devices, there were several interesting comparisons in the data when comparing the responses of the HAE and the K12 faculty.

- Whereas 100% of the K12 faculty reported ownership of a desktop computer; the HAE faculty reported a rate of 92.3%. For laptop computers, K12 faculty also showed higher rates of ownership (K12 – 71.4% versus HAE – 61.5%). Both groups indicated some wireless capability (28.6% of K12 faculty had a wireless adapter compared to 30.8% of HAE faculty), but HAE were much more likely to have a cell or digital phone (84.6% versus 57.1% for K12 faculty).
- Both HAE and K12 faculty reported spending significant amounts of time using electronic devices – 53.8% of the HAE faculty members, and 50% of the K12 faculty, reported using such devices more than 20 hours per week. For both groups, there was a gradual reduction in usage as they moved down the scale of hours.
- When reporting the numbers of hours per week that they used electronic devices for various purposes, the K12 faculty demonstrated higher usage patterns on most of the indicators. K12 faculty generated an overall score of 3.75, while HAE faculty scored 3.62 (on an 8-point scale) describing how much they use electronic devices in the teaching process. Both K12 and HAE faculty members reported a fair amount of using devices to write documents for their coursework (K12 – 3.63 versus HAE – 3.69), but the highest score in this section, for both groups, was related to their use of electronics for e-mail (K12 – 5.00 versus HAE – 5.23).
- Regarding the number of hours spent in using electronic devices for various tasks, K12 and HAE faculty reported similar patterns of usage. The activities rated highest for both groups of faculty were creating spreadsheets or charts – 3.00 for K12 faculty versus 2.31 for HAE faculty (again on an 8-point scale), and for creating presentations (3.00 for K12 versus 3.00 for HAE). Most notable in this section was that both K12 and HAE faculty reported *not* using several features related to IT capability: 71% of K12, and 62% of HAE, faculty reported that they “do not use” electronic tools for creating graphics; 100% of K12, and 92% of HAE, faculty “do not use” devices for creating and editing audio/video; and 100% of K12, and 69% of HAE, faculty “do not use” technology for creating web pages.
- In rating their skill levels with respect to various computer applications, the K12 and HAE faculties were very close in their estimation of their word processing skills (4.63 versus 4.62 on a 5-point scale). For most other applications that were reported, the K12 faculty rated

their abilities higher than did the HAE faculty. These included such items as the use of spreadsheets (K12 – 3.63 versus HAE – 3.38) and presentation software (K12 – 4.00 versus HAE – 3.69). Two areas in which the HAE faculty rated themselves higher were the use of course management systems (HAE – 2.62 versus K12 – 2.13) and use of online library resources (HAE – 3.85 versus K12 – 3.13). HAE faculty also reported more confidence in their abilities related to operating systems (3.38 versus K12's 2.88) and computer maintenance (2.92 versus K12's 2.50).

- Both FT and PT faculty were rather modest about their skill levels – 38.5% of HAE members reported that they were “at about the same skill level” as their peers while 75% of the K12 faculty made the same estimation regarding their abilities. Among those who rated themselves “much more skilled” than their peers, however, HAE faculty demonstrated notably more confidence – 38.5% versus 0% for K12 faculty.
- Regarding their reasons for learning various computer applications, most of the HAE faculty reported that they learned how to do spreadsheets as a result of their own personal interest and that they learned how to use presentation software to improve their teaching. K12 faculty also learned how to use presentation software in order to improve their teaching, but indicated that they learned how to use spreadsheets due to other professional activities. Again, the predominant response for both HAE and K12 faculties regarding several other types of applications (e.g. graphics, creating and editing audio/video, and creating web pages) was that they don't use those applications.
- Both faculty groups reported that the primary means for them to access the Internet was via the school-operated wired broadband service (50% for K12 faculty as compared to 38.5% for HAE faculty), while a number of the HAE faculty also indicated a significant use of commercial broadband service (30.8% versus 25% for K12 faculty). Neither group reported much use of wireless technology as their primary access to the Internet, but those that did were reliant on the school-operated wireless network (12.5% for K12 faculty versus 7.7% for HAE faculty).
- The two primary concerns regarding IT for HAE faculty were computer viruses – 2.54 versus 2.13 for K12 faculty (on a 4-point scale) and spam (2.85 versus 2.38 for K12 faculty). Notable in this section of the questionnaire was the high degree of “*non-concern*”. This was the most selected response for HAE faculty in such diverse areas as: inadequate access to printing, the age of hardware and software available to them, slow or inadequate access to the Internet, and inadequate technical assistance on campus. K12 faculty, however, expressed a little more concern regarding the age of both their hardware and software, slow or inadequate network availability, and inadequate technical assistance.

The next section of the survey addressed the use of technology in coursework from the respective positions of the HAE and K12 faculty:

- The preferences related to how much technology should be used in teaching their courses were somewhat different between the two groups, with 62.5% of K12, versus 38.5% of HAE, faculty preferring “extensive” use of technology; 25% of K12, versus 38.5% of HAE, faculty

preferring “moderate” use; and 12.5% of K12, versus 23.1% of HAE faculty, preferring “little” use of technology in their classes.

- Both FT and PT faculty expressed very positive opinions regarding their respective roles in using technology in coursework. In response to the question of whether their students are more engaged in courses that use technology, K12 faculty recorded a score of 3.88 versus HAE’s 3.54 (on a 5-point scale); regarding the faculty’s ability to use technology well (K12 – 4.00 versus HAE – 3.69); and as to whether use of technology has increased the students’ interest (K12 – 3.88 versus HAE – 3.08). In spite of those high scores, both groups expressed interest in more training with respect to how IT can improve their coursework (K12 – 4.00 versus HAE – 3.38).
- Likewise, both groups expressed positive regard for the various ways in which IT can help students in their work. Again, on a 5-point scale, the scores consistently were positive, from both groups, on several indicators: regarding whether IT helps students understand complex or abstract concepts (HAE – 3.31 versus K12 – 3.50); with respect to improved communication with the instructor (HAE – 4.08 versus K12 – 4.25); improved communication with classmates (HAE – 3.85 versus K12 – 4.25); and improved feedback from instructors (HAE – 4.31 versus K12 – 4.13). One other question was whether they felt students felt more control over their learning as a result of the use of IT. HAE faculty gave this indicator a score of 3.46 versus K12’s 3.88, indicating that both groups felt IT does offer students an increased sense of controlling their own learning processes.
- The split between those who use and don’t use course management systems (CMS) was very close for both groups – 50% among K12 faculty, and 46.2% among HAE faculty, that use such a tool. Perhaps most surprising in this section was the difference in responses that were gathered: among the K12 faculty that had used a CMS, 50% reported positive feelings about the use of such a tool, while the other 50% was neutral on the issue; and among the HAE population, 80% had a positive impression, while the other 20% expressed a negative impression. When asked about the usefulness of various features made available through a CMS, the HAE faculty expressed more positive regard than did the K12 for several of the features: Rated on a 4-point scale, some of the most significant of these features included: access to the course syllabus (HAE – 3.50 versus K12 – 2.25); access to online readings (HAE – 3.33 versus K12 – 2.00); online discussion board (HAE – 3.00 versus K12 – 1.50); receiving assignments online (HAE – 3.33 versus K12 – 1.75), giving assignments back online (HAE – 3.00 versus K12 – 1.50), sharing information with, or among, students (HAE – 3.33 versus K12 – 2.00) and providing a record of grades (HAE – 3.17 versus K12 – 1.50).
- HAE and K12 faculty exhibited a similar sense of priorities in addressing how IT had been beneficial to the learning process. Both groups gave the highest score to “helped me communicate with my students” (76.9% for HAE faculty and 75% for K12 faculty). Both groups also gave positive scores to “convenience” and “improved my teaching” – with 38.5% of the HAE faculty and 62.5% of the K12 faculty indicating each of these responses.
- Regarding whether IT has improved their respective roles as teachers, 87.5% of the K12 faculty answered that question positively while 61.6% of the HAE faculty did so.

- The majority of both groups of faculty members indicated that they do not encourage their students to bring their laptops to class. K12 faculty, however, were much more likely to have encouraged students to do so (37.5% versus HAE's 15.4%).

The final section of the survey attempted to gather a demographic overview of those who chose to respond to the survey.

- ◆ The gender breakdown among the HAE and K12 faculty groups was 53.8% male and 46.2% female for HAE faculty, and 50% male and 50% female for the K12 faculty.
- ◆ The age range of faculty who responded was high – 84.6% of HAE, and 75% of K12, faculty being 50 or over.
- ◆ The range of faculty teaching experience was considerable, but HAE faculty reported more experience overall. Whereas both groups consisted of several teachers who had been teaching less than 5 years (30.8% for HAE versus 37.5% for K12), HAE faculty were much more likely to report that they had been teaching for more than 12 years (53.9% versus 25% for K12 faculty). The majority of those who responded to the survey, in both groups, were not full-time faculty – 61.5% of HAE, and 50% of K12, faculty reported that they teach part-time.

Recommendations for the Department of Leadership

In light of the information provided by the faculty and students in the Department of Leadership, the following recommendations are submitted by this writer for consideration by the department.

- ◇ The department should help make more training in IT available for both students and faculty. For students, this might involve changes in the core curriculum (e.g. requiring a course specific to these skills). For faculty, this might involve various training formats – and a stronger relationship with the Advanced Learning Center (ALC) – to increase both ease and confidence levels in using IT.
- ◇ The department should encourage faculty to take advantage of the ALC’s fellowship program for helping faculty implement IT more fully into the curriculum. On a larger scale, the department should submit an application to the ALC, seeking one of the *Innovation to Excellence in Learning* grants for next year. Please see “TAF Innovation Grants” at this site, <http://alc.memphis.edu>, for more information related to these grants.
- ◇ The department should consider hiring a resource person specifically charged with the responsibility of helping faculty become more adept and more comfortable in the implementation of IT resources. Other organizations (e.g. school systems) have experienced good results by using such a position to accentuate and develop this initiative as a priority within the organization.
- ◇ The department should provide training with respect to creating graphics, creating and editing audio / video, creating web pages, and use of online library resources. These are IT skills that could add markedly to the educational experience for both faculty and students.
- ◇ The department should offer training for part-time faculty members in order to help them better understand the various ways in which technology can be used in the classroom – e.g. some part-time faculty may need assistance in learning how to use a course management system effectively. As students develop increased expectations regarding their instructors’ IT skills, it will be important that part-time, as well as full-time, faculty are able to feel confident about their abilities.
- ◇ In order to better measure IT fluency on an ongoing basis, the department should consider implementation of a pre-test / post-test process for students involved in the department’s programs.
- ◇ The department should conduct this survey again. The writer would recommend doing it annually until the department feels it has sufficient data to be able to construct a sound longitudinal view of the multiple issues addressed herein. To improve the response rate among students, it would be good to explore ways that faculty might encourage increased participation among the various student populations.

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Appendix A

Faculty Information Technology Use and Skills in Higher Education: 2006 Survey Questionnaire

Appendix A

Faculty Information Technology Use and Skills in Higher Education — February 2006

Faculty Information Technology Use and Skills in Higher Education: 2006 Survey Questionnaire

Thank you for your willingness to answer this survey which focuses on your experiences with, and opinions about, information technology. The information you and other faculty members provide will be reported in a study that will be available to the Department of Leadership, and will be compared with data gathered with respect to the student population in this same department in a concomitant survey. The primary goal of this study is to better understand faculty experiences with information technology, which, in turn, can help the leadership of this department respond to your IT needs and those of your students. Your answers are confidential, and neither the school nor this department will be able to identify you. Your e-mail address will be kept separate from the data collected in the survey. It will not be used to connect your survey responses with your name, nor will it be used for any other purpose. For the purposes of this survey, information technology refers to personal electronic devices such as laptops and handheld computers, cell phones, and this university's computers and associated devices.

Please submit your survey responses as soon as possible within the next two weeks. It should take you approximately 15 minutes to complete the survey. We appreciate your time and participation. If you have any questions or concerns, please feel free to directly contact the principal investigator, Gary Schneider (gschneid@memphis.edu 901-678-4503). If there are issues that need to be addressed regarding the administration of this instrument, you also may contact my major professor, Dr. James Penrod (jpenrod@memphis.edu 901-678-5598).

The survey form being used is an adaptation of the form designed for use by the EDUCAUSE Center for Applied Research in its survey of undergraduate students with respect to similar issues of knowledge and use of information technology. The researcher is grateful to the EDUCAUSE Center for Applied Research and to Richard Katz, Vice President of EDUCAUSE and founding director of the EDUCAUSE Center for Applied Research, for permission to modify this form accordingly.

Once again, thank you for your assistance!

*Faculty Information Technology Use and Skills in Higher Education — February 2006***Section 1. About You****1.1 [Required] I affirm that I am a member of the faculty of the Department of Leadership in the College of Education at The University of Memphis.**

<If no, go to end of questionnaire. If yes, go to 1.2>

- No
 Yes

I give my consent to the following.

You were selected for this survey because of your membership on the faculty in the Leadership Department of the College of Education at The University of Memphis. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

Background Information

If you agree to be in this study, please complete and submit the following survey. The survey asks for basic background information and questions you about:

- What kinds of information technologies you use and how often.
- What your level of skill is at using different information technologies.
- How these technologies contribute to your undergraduate experience.
- What value information technologies provide in teaching and learning in higher education.

It will take about 15 minutes to complete the survey. Please answer the questions to the best of your ability. There is no right or wrong answer. You only need to fill out the survey once.

Risks and Benefits of Being in the Study

There are no physical, psychological, social, or medical risks associated with your participation in this study. The benefit of your participation is to inform departmental leadership of the benefits of their technology investments for faculty and to help with curriculum development.

Confidentiality

The records of this study will be kept private. In any report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only researchers will have access to the records.

Voluntary Nature of the Study

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with this department, nor this institution. Furthermore, if you decide to participate, you are free not to answer any non-required question or withdraw at any time without affecting those relationships.

Contacts and Questions

You may direct any questions to the researcher conducting this study: Gary Schneider (gschneid@memphis.edu 901-678-4503). If there are issues that need to be addressed regarding the administration of this instrument, you may contact my major professor, Dr. James Penrod (jpenrod@memphis.edu 901-678-5598).

If you wish to print a copy of the survey before completing it online, you may do so. Once you complete and are ready to submit the survey, you may print or save a summary of your responses.

Statement of Consent**1.2 [Required] I have read the above information and have had the opportunity to ask questions and receive answers. I consent to participate in the study.**

<If no, go to end of questionnaire. If yes, go to 1.3>

- No
 Yes

Faculty Information Technology Use and Skills in Higher Education — February 2006

Section 2. Your Use of Electronic Devices

2.1_2.7 Which of the following electronic devices do you own? (Check all that apply).

- 2.1 Personal desktop computer
- 2.2 Personal laptop computer
- 2.3 Personal digital assistant (PDA), e.g., Palm device
- 2.4 Smart phone (combination cell phone and PDA device)
- 2.5 Cell or digital phone
- 2.6 Electronic music device, e.g., iPod
- 2.7 Wireless adapter

2.8 Excluding your use of cell phones, how many hours each week do you normally spend using an electronic device (computer, Palm device, etc.)?

- Do not use
- Less than an hour
- 1–2 hours
- 3–5 hours
- 6–10 hours
- 11–15 hours
- 16–20 hours
- More than 20 hours

2.9_2.19 How many hours each week do you normally spend on each of the following activities using an electronic device (computer, Palm device, etc.)?

- | | |
|------------------------------|-------------------------------|
| 1 = Do not use | 5 = 6–10 hours |
| 2 = Less than an hour | 6 = 11–15 hours |
| 3 = 1–2 hours | 7 = 16–20 hours |
| 4 = 3–5 hours | 8 = More than 20 hours |

- 2.9 _____ Classroom activities and teaching using an electronic device
- 2.10 _____ Using a library resource to design a course assignment (e.g., a library resource on your official school library Web site)
- 2.11 _____ Surfing the Internet for information to support coursework
- 2.12 _____ Writing documents for coursework
- 2.13 _____ Creating, reading, sending e-mail
- 2.14 _____ Creating, reading, sending instant messages
- 2.15 _____ Writing documents for pleasure
- 2.16 _____ Playing computer games
- 2.17 _____ Downloading or listening to music or videos/DVDs
- 2.18 _____ Surfing the Internet for pleasure
- 2.19 _____ Online shopping

2.20_2.25 How many hours each week do you normally spend on each of the following activities using an electronic device (computer, Palm device, etc.)?

- | | |
|------------------------------|-------------------------------|
| 1 = Do not use | 5 = 6–10 hours |
| 2 = Less than an hour | 6 = 11–15 hours |
| 3 = 1–2 hours | 7 = 16–20 hours |
| 4 = 3–5 hours | 8 = More than 20 hours |

- 2.20 _____ Creating spreadsheets or charts (Excel, etc.)
- 2.21 _____ Creating presentations (PowerPoint, etc.)
- 2.22 _____ Creating graphics (Photoshop, Flash, etc.)
- 2.23 _____ Creating and editing video/audio (Director, iMovie, etc.)
- 2.24 _____ Creating Web pages (Dreamweaver, FrontPage, etc.)
- 2.25 _____ Completing a teaching activity or providing information for a course using course management systems (ANGEL, WebCT, Blackboard, Desire2Learn, FirstClass, etc.)

Faculty Information Technology Use and Skills in Higher Education — February 2006

2.26_2.36 What is your skill level using the following computer technologies and applications?**1 = Do not use****2 = Very unskilled** (*Very unskilled=have not used the software*)**3 = Unskilled** (*Unskilled=have used the software but not regularly*)**4 = Skilled** (*Skilled=full use of basic features but not advanced features*)**5 = Very skilled** (*Very skilled=ability to use advanced features, link the software with other software, troubleshoot problems, and upgrade/patch the software*)

2.26 _____ Word processing (Word, etc.)

2.27 _____ Spreadsheets (Excel, etc.)

2.28 _____ Presentation software (PowerPoint, etc.)

2.29 _____ Graphics (Photoshop, Flash, etc.)

2.30 _____ Creating and editing video/audio (Director, iMovie, etc.)

2.31 _____ Creating Web pages (Dreamweaver, FrontPage, etc.)

2.32 _____ Course management systems (ANGEL, WebCT, Blackboard, Desire2Learn, FirstClass etc.)

2.33 _____ Online library resources

2.34 _____ Computer operating systems (Windows, OSX, etc.)

2.35 _____ Computer maintenance

2.36 _____ Securing your electronic device (firewalls, antivirus software, etc.)

2.37 How would you rate your information technology skills compared to other faculty members' skills on your campus? Much less skilled Less skilled About the same skill level More skilled Much more skilled**2.38_2.42 Why did you learn the following computer technologies and applications?****1 = Do not use****2 = To improve my performance when I was a student****3 = To improve my teaching performance****4 = To improve my students' learning****5 = Required by my employer****6 = Required for other professional activities****7 = Personal interest****8 = Other**

2.38 _____ Spreadsheets (Excel, etc.)

2.39 _____ Presentation software (PowerPoint, etc.)

2.40 _____ Graphics (Photoshop, Flash, etc.)

2.41 _____ Creating and editing video/audio (Director, iMovie, etc.)

2.42 _____ Creating Web pages (Dreamweaver, FrontPage, etc.)

2.43 During the academic year, what is your most frequently used method for access to the Internet? Commercial dial-up modem service (e.g., AOL, EarthLink, etc.) School-operated dial-up modem service Commercial broadband service (e.g., DSL modem, cable modem, etc.) School-operated wired broadband service Commercial wireless network School-operated wireless network

Faculty Information Technology Use and Skills in Higher Education — February 2006

2.44_2.50 Which of the following concern you regarding information technology?

- 1 = Not a concern**
2 = Small concern
3 = Significant concern
4 = Major concern

- 2.44 _____ Inadequate access to printing
 2.45 _____ The age of my computer hardware and software
 2.46 _____ Slow or inadequate network access
 2.47 _____ My technical skill level in troubleshooting my computer
 2.48 _____ Computer viruses, worms, or Trojan horses
 2.49 _____ Spam
 2.50 _____ Inadequate technical assistance and help available to me on my campus

Section 3. Your Use of Technology in Courses

3.1 Which of the following best describes your preference with regard to the use of technology in your courses?

- I prefer to use *no* information technology in teaching courses.
 I prefer to use *limited* technology features (e.g., e-mail to instructors and limited use of PowerPoint in class) in teaching courses.
 I prefer to use a *moderate* level of technology (e.g., e-mail, several PowerPoint presentations, some online activities or content) in teaching courses.
 I prefer to use technology *extensively* (e.g., class lecture notes online, computer simulations, PowerPoint presentations, streaming video or audio, etc.) in teaching courses.
 I prefer to use technology *exclusively* (i.e., are entirely online with no required face-to-face interactions) in teaching courses.

3.2_3.6 To what extent does each of the following describe your experiences in your courses?

- 1 = Strongly Disagree**
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

- 3.2 _____ My students are more engaged in courses in which I use technology.
 3.3 _____ Overall, I am confident of my ability to use information technology well in my courses.
 3.4 _____ My ability to use technology in my courses has increased my students' interest in the subject matter.
 3.5 _____ I primarily use information technology in courses to improve the presentation of my work.
 3.6 _____ My school needs to give me more training on the information technology that I can use in my courses.

*Faculty Information Technology Use and Skills in Higher Education — February 2006***3.7_3.11 To what extent has the use of information technology in courses helped you?****1 = Strongly Disagree****2 = Disagree****3 = Neutral****4 = Agree****5 = Strongly Agree**

- 3.7 _____ The use of information technology in courses has helped my students better understand complex or abstract concepts.
- 3.8 _____ The use of information technology in courses has helped my students better communicate with me.
- 3.9 _____ The use of information technology in courses has helped my students better communicate and collaborate with their classmates.
- 3.10 _____ The use of information technology in courses has enabled me to give prompt feedback to my students.
- 3.11 _____ Courses that use information technology allow my students to take greater control of their course activities (e.g., planning, apportioning time, noting success and failure).

3.12 [Required] Have you used a course management system (e.g., ANGEL, WebCT, Blackboard, Desire2Learn, or FirstClass) in teaching a class?

<If no, go to 3.23. If yes, go to 3.13>

- No
- Yes

3.13 How would you describe your own overall experience as a teacher using a course management system?

- Very negative
- Negative
- Neutral
- Positive
- Very positive

3.14_3.22 How valuable did you find the following course management system features?**1 = Did not use****2 = Not valuable****3 = Valuable****4 = Very valuable**

- 3.14 _____ Syllabus
- 3.15 _____ Online readings and links to other text-based course materials
- 3.16 _____ Online discussion board (posting comments, questions, and responses)
- 3.17 _____ Access to sample exams and quizzes for learning purposes
- 3.18 _____ Giving exams and quizzes online for grading purposes
- 3.19 _____ Receiving assignments online
- 3.20 _____ Giving assignments back with comments and grades
- 3.21 _____ Sharing materials among students
- 3.22 _____ Providing a record of grades on assignments and tests

*Faculty Information Technology Use and Skills in Higher Education — February 2006***3.23_3.24 Which of the following benefits from using information technology in your courses was the most valuable to you?**

- Improved my teaching
- Convenience
- Helped me more effectively manage my activities related to teaching my course(s) (e.g., planning, apportioning time, noting success and failure)
- Helped me communicate with my students
- No benefits
- Other
- 3.24 Please describe (optional)

3.25 The use of information technology in my courses has improved my teaching.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

3.26 Do you normally encourage students to bring their laptops to class?

- No
- Yes

Section 4. Information About You**4.1 What is your gender?**

- Female
- Male

4.2 What is your age?

- 18-34
- 35-49
- 50-64
- 65 or over
- Decline to answer

4.3 How many years have you been teaching at the graduate level?

- Less than 5 years
- 5-12 years
- 13-25 years
- More than 25 years

Faculty Information Technology Use and Skills in Higher Education — February 2006

4.4 Are you a full-time or part-time faculty member?

- Full time
- Part time

4.5 Do you reside in an area that accommodates broadband access to information technology?

- No
- Yes

4.6_4.7 In what discipline do you teach?

- Higher / Adult Education
- K-12 Education

4.8 If you have any other comments or insights about your information technology use and skills, please feel free to share them with us below.

[Write in the paragraph field—blank space—below]

Section 5. Thank You

You have reached the end of the survey. Thank you! Please submit the survey by returning the Word document to gschneid@memphis.edu

– END SURVEY –

Appendix B

Data Summary for Faculty versus Student Respondents

Appendix B-1
Data Summary for Faculty versus Student Respondents

(Data presented = Response *percent* (%))

	DL FACULTY		DL STUDENTS
	n = 21		n = 71
Gender		Gender	
Female	47.6	Female	38.6
Male	52.4	Male	61.4
Age		Age	
18-34 years	0	20-29 years	11.9
35-49 years	19	30-39 years	40.7
50-64 years	57.1	40-49 years	22
> 64 years	23.8	50-59 years	22
		60-69 years	1.7
		Decline to answer	1.7
Years teaching		Cumulative GPA	
< 5 years	33.3	2.50 - 2.99	0
5 – 12 years	23.8	3.00 - 3.24	6.8
13 – 25 years	23.8	3.25 - 3.49	6.8
> 25 years	19	3.50 - 3.74	10.2
		3.75 - 4.00	72.9
Teaching status		Student status	
Full-time	42.9	Full-time	18.6
Part-time	57.1	Part-time	81.4
Division		Concentration / major	
Higher /Adult	61.9	Higher education	45.8
K – 12	38.1	Adult education	15.3
		Policy studies	15.3
		CC certificate	5.1
		Foundations	0
		Ctr for Urban Lead	18.6
		Principals program	16.9

		Degree program	
		Masters	21.7
		Doctoral	78.3

Appendix B-2
Data Summary for Faculty versus Student Respondents

2.1_2.7 Which of the following electronic devices do you own? (Check all that apply).

- 2.1 Personal desktop computer
- 2.2 Personal laptop computer
- 2.3 Personal digital assistant (PDA), e.g., Palm device
- 2.4 Smart phone (combination cell phone and PDA device)
- 2.5 Cell or digital phone
- 2.6 Electronic music device, e.g., iPod
- 2.7 Wireless adapter

(Data presented = Response percent (%))

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Ownership		
Desktop	90.5	79.7
Laptop	61.9	76.3
PDA	19	32.2
Smart phone	9.5	6.8
Cell phone	76.2	91.5
Elec. music	9.5	22
Wireless ad.	33.3	30.5

Appendix B-3
Data Summary for Faculty versus Student Respondents

2.8 Excluding your use of cell phones, how many hours each week do you normally spend using an electronic device (computer, Palm device, etc.)?

- Do not use
- Less than an hour
- 1–2 hours
- 3–5 hours
- 6–10 hours
- 11–15 hours
- 16–20 hours
- More than 20 hours

(Data presented = Response percent (%))

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Time spent		
0 hours	0	0
< 1 hour	0	0
1-2 hours	0	0
3-5 hours	0	6.7
6-10 hours	9.1	18.3
11-15 hours	13.6	11.7
16-20 hours	27.3	15
> 20 hours	50	48.3

Appendix B-5
Data Summary for Faculty versus Student Respondents

2.20_2.25 How many hours each week do you normally spend on each of the following activities using an electronic device (computer, Palm device, etc.)?	
1 = Do not use	5 = 6–10 hours
2 = Less than an hour	6 = 11–15 hours
3 = 1–2 hours	7 = 16–20 hours
4 = 3–5 hours	8 = More than 20 hours
2.20 _____	Creating spreadsheets or charts (Excel, etc.)
2.21 _____	Creating presentations (PowerPoint, etc.)
2.22 _____	Creating graphics (Photoshop, Flash, etc.)
2.23 _____	Creating and editing video/audio (Director, iMovie, etc.)
2.24 _____	Creating Web pages (Dreamweaver, FrontPage, etc.)
2.25 _____	Completing a teaching (learning) activity or providing information for a course using course management systems (ANGEL, WebCT, Blackboard, Desire2Learn, FirstClass, etc.)

(Data presented = Response *average*) ⇒ (Maximum points = 8.00)

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Activities		
Spreadsheets	2.50	2.53
Presentations	2.91	2.88
Graphics	1.33	1.79
Video / audio	1.10	1.28
Web pages	1.23	1.53
CMS	2.27	2.78

Appendix B-6
Data Summary for Faculty versus Student Respondents

2.26_2.36 What is your skill level using the following computer technologies and applications?	
1 = Do not use	
2 = Very unskilled	<i>(Very unskilled=have not used the software)</i>
3 = Unskilled	<i>(Unskilled=have used the software but not regularly)</i>
4 = Skilled	<i>(Skilled=full use of basic features but not advanced features)</i>
5 = Very skilled	<i>(Very skilled=ability to use advanced features, link the software with other software, troubleshoot problems, and upgrade/patch the software)</i>
2.26 _____	Word processing (Word, etc.)
2.27 _____	Spreadsheets (Excel, etc.)
2.28 _____	Presentation software (PowerPoint, etc.)
2.29 _____	Graphics (Photoshop, Flash, etc.)
2.30 _____	Creating and editing video/audio (Director, iMovie, etc.)
2.31 _____	Creating Web pages (Dreamweaver, FrontPage, etc.)
2.32 _____	Course management systems (ANGEL, WebCT, Blackboard, Desire2Learn, FirstClass etc.)
2.33 _____	Online library resources
2.34 _____	Computer operating systems (Windows, OSX, etc.)
2.35 _____	Computer maintenance
2.36 _____	Securing your electronic device (firewalls, antivirus software, etc.)

(Data presented = Response *average*) ⇒ (Maximum points = 5.00)

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Skill level		
Word processing	4.64	4.61
Spreadsheets	3.50	3.90
Presentation	3.82	4.29
Graphics	2.27	2.54
Video / Audio	1.73	1.92
Web pages	1.90	2.38
CMS	2.41	3.18
Library	3.59	4.07
Operating system	3.23	3.97
Maintenance	2.73	3.15
Security	2.95	3.22

Appendix B-7
Data Summary for Faculty versus Student Respondents

<p>Faculty: 2.37 How would you rate your information technology skills compared to other faculty members' skills on your campus?</p>
<p>Students: 2.37 How would you rate your information technology skills compared to other students' skills on your campus?</p> <p><input type="checkbox"/> Much less skilled <input type="checkbox"/> Less skilled <input type="checkbox"/> About the same skill level <input type="checkbox"/> More skilled <input type="checkbox"/> Much more skilled</p>

<p>2.43 During the academic year, what is your most frequently used method for access to the Internet?</p> <p><input type="checkbox"/> Commercial dial-up modem service (e.g., AOL, EarthLink, etc.) <input type="checkbox"/> School-operated dial-up modem service <input type="checkbox"/> Commercial broadband service (e.g., DSL modem, cable modem, etc.) <input type="checkbox"/> School-operated wired broadband service <input type="checkbox"/> Commercial wireless network</p>

(Data presented = Response percent (%))

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Skill rating		
Much less	0	3.3
Less	18.2	11.7
About same	50	40
More	9.1	33.3
Much more	22.7	11.7
Access		
Comm modem	9.1	13.3
Schl modem	18.2	15
Comm b'band	18.2	38.3
Schl b'band	45.5	16.7
Comm wireless	0	6.7
Schl wireless	9.1	10

Appendix B-8
Data Summary for Faculty versus Student Respondents

Faculty:
2.38_2.42 Why did you learn the following computer technologies and applications?
 1 = Do not use
 2 = To improve my performance when I was a student
 3 = To improve my teaching performance
 4 = To improve my students' learning
 5 = Required by my employer
 6 = Required for other professional activities
 7 = Personal interest
 8 = Other

Students:
2.38_2.42 Why did you learn the following computer technologies and applications?
 1 = Do not use
 2 = Improve course performance
 3 = Class / major requirement
 4 = Campus requirement
 5 = Student organization activities
 6 = Personal interest
 7 = Employment
 8 = Other

2.38 _____ Spreadsheets (Excel, etc.)
 2.39 _____ Presentation software (PowerPoint, etc.)
 2.40 _____ Graphics (Photoshop, Flash, etc.)
 2.41 _____ Creating and editing video/audio (Director, iMovie, etc.)
 2.42 _____ Creating Web pages (Dreamweaver, FrontPage, etc.)

(Data presented = Response percent (%))

	DL FACULTY		DL STUDENTS
	n = 21		n = 71
Spreadsheets		Spreadsheets	
Do not use	14	Do not use	12
Stdt performance	14	Course performance	2
Tch performance	23	Class / major	3
Stdts' learning	5	Campus reqmt	3
Employer	18	Student organization	2
Prof activities	36	Personal interest	12
Personal interest	45	Employment	62
Other	0	Other	5
Presentation		Presentation	

Do not use	14	Do not use	3
Std performance	5	Course performance	5
Tch performance	45	Class / major	24
Stdts' learning	23	Campus reqmt	2
Employer	5	Student organization	0
Prof activities	32	Personal interest	8
Personal interest	23	Employment	54
Other	5	Other	3
Graphics		Graphics	
Do not use	68	Do not use	58
Std performance	5	Course performance	0
Tch performance	0	Class / major	0
Stdts' learning	0	Campus reqmt	5
Employer	0	Student organization	0
Prof activities	0	Personal interest	20
Personal interest	27	Employment	15
Other	0	Other	2
Video / Audio		Video / Audio	
Do not use	95	Do not use	80
Std performance	0	Course performance	2
Tch performance	0	Class / major	2
Stdts' learning	0	Campus reqmt	2
Employer	5	Student organization	0
Prof activities	0	Personal interest	10
Personal interest	0	Employment	5
Other	0	Other	0
Web pages		Web pages	
Do not use	68	Do not use	59
Std performance	0	Course performance	0
Tch performance	14	Class / major	5
Stdts' learning	9	Campus reqmt	2
Employer	9	Student organization	0
Prof activities	9	Personal interest	12
Personal interest	9	Employment	22
Other	5	Other	0

Appendix B-9
Data Summary for Faculty versus Student Respondents

2.44_2.50 Which of the following concern you regarding information technology?

1 = Not a concern
2 = Small concern
3 = Significant concern
4 = Major concern

2.44 _____ Inadequate access to printing
 2.45 _____ The age of my computer hardware and software
 2.46 _____ Slow or inadequate network access
 2.47 _____ My technical skill level in troubleshooting my computer
 2.48 _____ Computer viruses, worms, or Trojan horses
 2.49 _____ Spam
 2.50 _____ Inadequate technical assistance and help available to me on my campus

(Data presented = Response *average*) ⇒ (Maximum points = 4.00)

	DEPT. OF LEADERSHIP FACULTY		DEPT. OF LEADERSHIP STUDENTS
	n = 21		n = 71
Concerns			
Printing	1.36		1.61
Age of resources	2.18		2.08
Network access	1.86		2.18
Technical skill	2.14		2.18
Viruses	2.36		2.75
Spam	2.68		2.63
Technical ass'tce	2.09		1.82

Appendix B-10
Data Summary for Faculty versus Student Respondents

3.1 Which of the following best describes your preference with regard to the use of technology in your courses?

Faculty:

- I prefer to use *no* information technology in teaching courses.
- I prefer to use *limited* technology features (e.g., e-mail to instructors and limited use of PowerPoint in class) in teaching courses.
- I prefer to use a *moderate* level of technology (e.g., e-mail, several PowerPoint presentations, some online activities or content) in teaching courses.
- I prefer to use technology *extensively* (e.g., class lecture notes online, computer simulations, PowerPoint presentations, streaming video or audio, etc.) in teaching courses.
- I prefer to use technology *exclusively* (i.e., are entirely online with no required face-to-face interactions) in teaching courses.

Students:

- I prefer taking courses that use *no* information technology.
- I prefer taking courses that use *limited* technology features (e.g., e-mail to instructors and limited use of PowerPoint in class).
- I prefer taking courses that use a *moderate* level of technology (e.g., e-mail, several PowerPoint presentations, some online activities or content).
- I prefer taking courses that use technology *extensively* (e.g., class lecture notes online, computer simulations, PowerPoint presentations, streaming video or audio, etc.).
- I prefer taking courses that use technology *exclusively* (i.e., are entirely online with no required face-to-face interactions).

(Data presented = Response percent (%))

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Preference		
None	0	1.7
Limited	19	13.8
Moderate	33.3	39.7
Extensive	47.6	43.1
Exclusive	0	1.7

Appendix B-11
Data Summary for Faculty versus Student Respondents

3.2_3.6 To what extent does each of the following describe your experiences in your courses?

1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

Faculty:

3.2 _____ My students are more engaged in courses in which I use technology.
 3.3 _____ Overall, I am confident of my ability to use information technology well in my courses.
 3.4 _____ My ability to use technology in my courses has increased my students' interest in the subject matter.
 3.5 _____ I primarily use information technology in courses to improve the presentation of my work.
 3.6 _____ My school needs to give me more training on the information technology that I can use in my courses.

Students:

3.2 _____ I am more engaged in courses that require me to use technology.
 3.3 _____ Overall, my instructors use information technology well in my courses.
 3.4 _____ The instructor's use of technology in my courses has increased my interest in the subject matter.
 3.5 _____ I primarily use information technology in courses to improve the presentation of my work.
 3.6 _____ My school needs to give me more training on the information technology that I am required to use in my courses.

(Data presented = Response *average*) ⇒ (Maximum points = 5.00)

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Agreement level		
Engagement	3.67	3.47
Confidence	3.81	3.68
Interest	3.38	3.49
Presentation	3,76	3.92
Training	3.62	3.27

Appendix B-12
Data Summary for Faculty versus Student Respondents

3.7_3.11 To what extent has the use of information technology in courses helped you?

1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

Faculty:

3.7 _____ The use of information technology in courses has helped my students better understand complex or abstract concepts.

3.8 _____ The use of information technology in courses has helped my students better communicate with me.

3.9 _____ The use of information technology in courses has helped my students better communicate and collaborate with their classmates.

3.10 _____ The use of information technology in courses has enabled me to give prompt feedback to my students.

3.11 _____ Courses that use information technology allow my students to take greater control of their course activities (e.g., planning, apportioning time, noting success and failure).

Students:

3.7 _____ The use of information technology in courses has helped me better understand complex or abstract concepts.

3.8 _____ The use of information technology in courses has helped me better communicate with my instructors.

3.9 _____ The use of information technology in courses has helped me better communicate and collaborate with my classmates.

3.10 _____ The use of information technology in courses has resulted in prompt feedback from my instructors.

3.11 _____ Courses that use information technology allow me to take greater control of my own course activities (e.g., planning, apportioning time, noting success and failure).

(Data presented = Response *average*) ⇒ (Maximum points = 5.00)

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Agreement level		
Complex	3.38	3.41
Communicate	4.14	4.21
Stdnt cmctn	4.00	4.02
Feedback	4.24	4.00
Control	3.62	3.84

Appendix B-13
Data Summary for Faculty versus Student Respondents

Faculty:
3.12 [Required] Have you used a course management system (e.g., ANGEL, WebCT, Blackboard, Desire2Learn, or FirstClass) in teaching a class?

Students:
3.12 [Required] Have you taken a class that used a course management system (e.g. ANGEL, WebCT, Blackboard, Desire2Learn, or FirstClass)?

No
 Yes

Faculty:
3.13 How would you describe your own overall experience as a teacher using a course management system?

Students:
3.13 how would you describe your own overall experience using a course management system?

Very negative
 Negative
 Neutral
 Positive
 Very positive

(Data presented = Response percent (%))

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Use of CMS		
No	52.4	27.6
Yes	47.6	72.4
Rate CMS exp.		
Very negative	0	2.4
Negative	11.1	7.3
Neutral	22.2	12.2
Positive	44.4	53.7
Very positive	22.2	24.4

Appendix B-14
Data Summary for Faculty versus Student Respondents

3.14_3.22 How valuable did you find the following course management system features?

- 1 = Did not use**
2 = Not valuable
3 = Valuable
4 = Very valuable

Faculty:

- 3.14 _____ Syllabus
 3.15 _____ Online readings and links to other text-based course materials
 3.16 _____ Online discussion board (posting comments, questions, and responses)
 3.17 _____ Access to sample exams and quizzes for learning purposes
 3.18 _____ Giving exams and quizzes online for grading purposes
 3.19 _____ Receiving assignments online
 3.20 _____ Giving assignments back with comments and grades
 3.21 _____ Sharing materials among students
 3.22 _____ Providing a record of grades on assignments and tests

Students:

- 3.14 _____ Syllabus
 3.15 _____ Online readings and links to other text-based course materials
 3.16 _____ Online discussion board (posting comments, questions, and responses)
 3.17 _____ Access to sample exams and quizzes for learning purposes
 3.18 _____ Taking exams and quizzes online for grading purposes
 3.19 _____ Turning in assignments online
 3.20 _____ Getting assignments back from instructors with comments and grades
 3.21 _____ Sharing materials among students
 3.22 _____ Keeping track of grades on assignments and tests

(Data presented = Response *average*) ⇒ (Maximum points = 4.00)

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
CMS component		
Syllabus	3.00	3.26
Online reading	2.80	3.26
Disc board	2.40	3.07
Sample exams	2.20	2.70
Giving exams	2.00	2.53
Receiving ass.	2.70	3.26
Feedback	2.40	3.14
Materials	2.80	3.26
Grade records	2.50	3.02

Appendix B-15
Data Summary for Faculty versus Student Respondents

3.23_3.24 Which of the following benefits from using information technology in your courses was the most valuable to you?

Faculty:

- Improved my teaching
- Convenience
- Helped me more effectively manage my activities related to teaching my course(s) (e.g., planning, apportioning time, noting success and failure)
- Helped me communicate with my students
- No benefits
- Other
- 3.24 Please describe (optional)

Students:

- Improved my learning
- Convenience
- Helped me manage my course activities (e.g., planning, apportioning time, noting success and failure)
- Helped me communicate with my classmates and instructors
- No benefits
- Other
- 3.24 Please describe (optional)

(Data presented = Response percent (%))

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Benefits		
Teaching	47.6	27.1
Convenience	47.6	66.1
Manage acts	33.3	27.1
Communicate	76.2	49.2
None	0	3.4

Appendix B-16
Data Summary for Faculty versus Student Respondents

Faculty:
3.25 The use of information technology in my courses has improved my teaching.

Students:
3.25 The use of information technology in my courses has improved my learning.

Strongly disagree
 Disagree
 Neutral
 Agree
 Strongly agree

Faculty:
3.26 Do you normally encourage students to bring their laptops to class?

Students:
3.26 Do you normally bring your laptop to class?

No
 Yes

(Data presented = Response *percent* (%))

	DEPT. OF LEADERSHIP FACULTY	DEPT. OF LEADERSHIP STUDENTS
	n = 21	n = 71
Improvement		
Strong disagree	0	8.5
Disagree	4.8	5.1
Neutral	23.8	25.4
Agree	52.4	49.2
Strong agree	19	11.9
Encourage laptop		
No	76.2	77.6
Yes	23.8	22.4

Appendix C

Data Summary for Faculty Respondents

Appendix C - 1
Data Summary for Faculty Respondents
Demographic Overview

(Data presented = Response *percent* (%))

	DL FACULTY		FT FACULTY		PT FACULTY		HAE FACULTY		K12 FACULTY
	n = 21		n = 9		n = 12		n = 13		n = 8
Gender									
Female	47.6		44.4		50		46.2		50
Male	52.4		55.6		50		53.8		50
Age									
18-34 years	0		0		0		0		0
35-49 years	19		22.2		16.7		15.4		25
50-64 years	57.1		44.4		66.7		53.8		62.5
> 64 years	23.8		33.3		16.7		30.8		12.5
Years teaching									
< 5 years	33.3		33.3		33.3		30.8		37.5
5 – 12 years	23.8		11.1		33.3		15.4		37.5
13 – 25 years	23.8		33.3		16.7		23.1		25
> 25 years	19		22.2		16.7		30.8		0
Teaching status									
Full-time	42.9		100		0		38.5		50
Part-time	57.1		0		100		61.5		50
Division									
Higher /Adult	61.9		55.6		66.7		100		0
K – 12	38.1		44.4		33.3		0		100

DL Faculty = Department of Leadership Faculty
FT Faculty = Full-time Faculty
HAE Faculty = Higher / Adult Education Faculty

PT Faculty = Part-time Faculty
K12 Faculty = K-12 Faculty

Appendix C - 2
Data Summary for Faculty Respondents

- 2.1_2.7 Which of the following electronic devices do you own? (Check all that apply).**
- 2.1 Personal desktop computer
 - 2.2 Personal laptop computer
 - 2.3 Personal digital assistant (PDA), e.g., Palm device
 - 2.4 Smart phone (combination cell phone and PDA device)
 - 2.5 Cell or digital phone
 - 2.6 Electronic music device, e.g., iPod
 - 2.7 Wireless adapter

(Data presented = Response percent (%))

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Ownership					
Desktop	90.5	100	90.9	92.3	100
Laptop	61.9	88.9	45.5	61.5	71.4
PDA	19	22.2	18.2	15.4	28.6
Smart phone	9.5	11.1	9.1	7.7	14.3
Cell phone	76.2	55.6	90.9	84.6	57.1
Elec. music	9.5	11.1	9.1	7.7	14.3
Wireless ad.	33.3	44.4	18.2	30.8	28.6

DL Faculty = Department of Leadership Faculty	PT Faculty = Part-time Faculty
FT Faculty = Full-time Faculty	K12 Faculty = K-12 Faculty
HAE Faculty = Higher / Adult Education Faculty	

Appendix C - 3
Data Summary for Faculty Respondents

2.8 Excluding your use of cell phones, how many hours each week do you normally spend using an electronic device (computer, Palm device, etc.)?

- Do not use
- Less than an hour
- 1–2 hours
- 3–5 hours
- 6–10 hours
- 11–15 hours
- 16–20 hours
- More than 20 hours

(Data presented = Response percent (%))

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Time spent					
0 hours	0	0	0	0	0
< 1 hour	0	0	0	0	0
1-2 hours	0	0	0	0	0
3-5 hours	0	0	0	0	0
6-10 hours	9.1	0	16.7	15.4	0
11-15 hours	13.6	11.1	16.7	7.7	25
16-20 hours	27.3	33.3	16.7	23.1	25
> 20 hours	50	55.6	50	53.8	50

DL Faculty = Department of Leadership Faculty
 FT Faculty = Full-time Faculty
 HAE Faculty = Higher / Adult Education Faculty

PT Faculty = Part-time Faculty
 K12 Faculty = K-12 Faculty

Appendix C - 4
Data Summary for Faculty Respondents

2.9_2.19 How many hours each week do you normally spend on each of the following activities using an electronic device (computer, Palm device, etc.)?

- 1 = Do not use** **5 = 6–10 hours**
2 = Less than an hour **6 = 11–15 hours**
3 = 1–2 hours **7 = 16–20 hours**
4 = 3–5 hours **8 = More than 20 hours**

- 2.9 _____ Classroom activities and teaching using an electronic device
 2.10 _____ Using a library resource to design a course assignment (e.g., a library resource on your official school library Web site)
 2.11 _____ Surfing the Internet for information to support coursework
 2.12 _____ Writing documents for coursework
 2.13 _____ Creating, reading, sending e-mail
 2.14 _____ Creating, reading, sending instant messages
 2.15 _____ Writing documents for pleasure
 2.16 _____ Playing computer games
 2.17 _____ Downloading or listening to music or videos/DVDs
 2.18 _____ Surfing the Internet for pleasure
 2.19 _____ Online shopping

(Data presented = Response average) ⇒ (Maximum points = 8.00)

	DL FACULTY		FT FACULTY		PT FACULTY		HAE FACULTY		K12 FACULTY
	n = 21		n = 9		n = 12		n = 13		n = 8
Time spent									
Classroom	3.59		4.33		3.17		3.62		3.75
Library res	2.14		2.56		1.92		2.08		2.38
Surfing - courses	3.32		3.78		2.92		3.08		3.63
Writing - courses	3.59		4.11		3.33		3.69		3.63
E-mail	5.09		5.33		5.00		5.23		5.00
Instant mess	1.90		2.22		1.64		2.17		1.50
Writing - pl'sure	2.45		2.78		2.17		2.23		2.75
Computer games	1.71		1.38		1.83		1.67		1.63
Music / videos	1.43		1.38		1.25		1.25		1.38
Surfing – pl'sure	2.73		2.78		2.58		2.62		2.75
Shopping	2.24		2.11		2.18		2.00		2.38

DL Faculty = Department of Leadership Faculty
 FT Faculty = Full-time Faculty
 HAE Faculty = Higher / Adult Education Faculty

PT Faculty = Part-time Faculty
 K12 Faculty = K-12 Faculty

Appendix C - 6

Data Summary for Faculty Respondents

2.26_2.36 What is your skill level using the following computer technologies and applications?
1 = Do not use
2 = Very unskilled *(Very unskilled=have not used the software)*
3 = Unskilled *(Unskilled=have used the software but not regularly)*
4 = Skilled *(Skilled=full use of basic features but not advanced features)*
5 = Very skilled *(Very skilled=ability to use advanced features, link the software with other software, troubleshoot problems, and upgrade/patch the software)*

2.26 _____ Word processing (Word, etc.)

2.27 _____ Spreadsheets (Excel, etc.)

2.28 _____ Presentation software (PowerPoint, etc.)

2.29 _____ Graphics (Photoshop, Flash, etc.)

2.30 _____ Creating and editing video/audio (Director, iMovie, etc.)

2.31 _____ Creating Web pages (Dreamweaver, FrontPage, etc.)

2.32 _____ Course management systems (ANGEL, WebCT, Blackboard, Desire2Learn, FirstClass etc.)

2.33 _____ Online library resources

2.34 _____ Computer operating systems (Windows, OSX, etc.)

2.35 _____ Computer maintenance

2.36 _____ Securing your electronic device (firewalls, antivirus software, etc.)

(Data presented = Response average) ⇒ (Maximum points = 5.00)

	DL FACULTY		FT FACULTY		PT FACULTY		HAE FACULTY		K12 FACULTY
	n = 21		n = 9		n = 12		n = 13		n = 8
Skill level									
Word processing	4.64		4.78		4.50		4.62		4.63
Spreadsheets	3.50		3.11		3.75		3.38		3.63
Presentation	3.82		4.11		3.58		3.69		4.00
Graphics	2.27		2.44		2.17		2.08		2.63
Video / Audio	1.73		2.00		1.50		1.77		1.63
Web pages	1.90		2.50		1.50		1.83		2.00
CMS	2.41		3.11		1.92		2.62		2.13
Library	3.59		4.00		3.25		3.85		3.13
Operating system	3.23		2.78		3.50		3.38		2.88
Maintenance	2.73		2.56		2.92		2.92		2.50
Security	2.95		3.00		2.83		2.77		3.13

DL Faculty = Department of Leadership Faculty

FT Faculty = Full-time Faculty

HAE Faculty = Higher / Adult Education Faculty

PT Faculty = Part-time Faculty

K12 Faculty = K-12 Faculty

Appendix C - 7
Data Summary for Faculty Respondents

2.37 How would you rate your information technology skills compared to other faculty members' skills on your campus?

- Much less skilled
- Less skilled
- About the same skill level
- More skilled
- Much more skilled

2.43 During the academic year, what is your most frequently used method for access to the Internet?

- Commercial dial-up modem service (e.g., AOL, EarthLink, etc.)
- School-operated dial-up modem service
- Commercial broadband service (e.g., DSL modem, cable modem, etc.)
- School-operated wired broadband service
- Commercial wireless network
- School-operated wireless network

(Data presented = Response *percent (%)*)

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Skill rating					
Much less	0	0	0	0	0
Less	18.2	11.1	16.7	15.4	12.5
About same	50	44.4	58.3	38.5	75
More	9.1	11.1	8.3	7.7	12.5
Much more	22.7	33.3	16.7	38.5	0
Access					
Comm modem	9.1	11.1	8.3	7.7	12.5
Schl modem	18.2	22.2	16.7	30.8	0
Comm b'band	18.2	33.3	8.3	15.4	25
Schl b'band	45.5	22.2	58.3	38.5	50
Comm wireless	0	0	0	0	0
Schl wireless	9.1	11.1	8.3	7.7	12.5

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FT Faculty = Full-time Faculty	K12 Faculty = K-12 Faculty
HAE Faculty = Higher / Adult Education Faculty	

Appendix C - 8
Data Summary for Faculty Respondents

2.38_2.42 Why did you learn the following computer technologies and applications?
1 = Do not use
2 = To improve my performance when I was a student
3 = To improve my teaching performance
4 = To improve my students' learning
5 = Required by my employer
6 = Required for other professional activities
7 = Personal interest
8 = Other

2.38 _____ Spreadsheets (Excel, etc.)
 2.39 _____ Presentation software (PowerPoint, etc.)
 2.40 _____ Graphics (Photoshop, Flash, etc.)
 2.41 _____ Creating and editing video/audio (Director, iMovie, etc.)
 2.42 _____ Creating Web pages (Dreamweaver, FrontPage, etc.)

	DL FACULTY		FT FACULTY		PT FACULTY		HAE FACULTY		K12 FACULTY
	n = 21		n = 9		n = 12		n = 13		n = 8
Spreadsheets									
Do not use	14		33		0		15		12
Std performance	14		0		25		15		12
Tch performance	23		33		17		23		25
Stdts' learning	5		0		8		0		12
Employer	18		0		25		15		12
Prof activities	36		22		50		31		50
Personal interest	45		56		42		54		38
Other	0		0		0		0		0
Presentation									
Do not use	14		11		17		15		12
Std performance	5		0		8		8		0
Tch performance	45		56		42		46		50
Stdts' learning	23		33		17		31		12
Employer	5		0		8		8		0
Prof activities	32		33		25		23		38
Personal interest	23		22		25		31		12
Other	5		0		8		8		0
Graphics									

Do not use	68		67	67		62	75
Stdts performance	5		0	8		8	0
Tch performance	45		0	0		0	0
Stdts' learning	23		0	0		0	0
Employer	5		0	0		0	0
Prof activities	32		0	0		0	0
Personal interest	23		33	25		31	25
Other	0		0	0		0	0
Video / Audio							
Do not use	95		100	92		92	100
Stdts performance	0		0	0		0	0
Tch performance	0		0	0		0	0
Stdts' learning	0		0	0		0	0
Employer	5		0	8		0	0
Prof activities	0		0	0		8	0
Personal interest	0		0	0		0	0
Other	0		0	0		0	0
Web pages							
Do not use	68		44	83		69	62
Stdts performance	0		0	0		0	0
Tch performance	14		22	8		8	25
Stdts' learning	9		11	8		8	12
Employer	9		0	17		8	12
Prof activities	9		22	0		8	12
Personal interest	9		22	0		15	0
Other	5		11	0		8	0

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Appendix C - 9
Data Summary for Faculty Respondents

2.44_2.50 Which of the following concern you regarding information technology?
1 = Not a concern
2 = Small concern
3 = Significant concern
4 = Major concern
 2.44 _____ Inadequate access to printing
 2.45 _____ The age of my computer hardware and software
 2.46 _____ Slow or inadequate network access
 2.47 _____ My technical skill level in troubleshooting my computer
 2.48 _____ Computer viruses, worms, or Trojan horses
 2.49 _____ Spam
 2.50 _____ Inadequate technical assistance and help available to me on my campus

(Data presented = Response average) ⇒ (Maximum points = 4.00)

	DL FACULTY		FT FACULTY		PT FACULTY		HAE FACULTY		K12 FACULTY
	n = 21		n = 9		n = 12		n = 13		n = 8
Concerns									
Printing	1.36		1.44		1.25		1.31		1.38
Age of resources	2.18		2.33		2.00		1.54		3.13
Network access	1.86		1.89		1.92		1.62		2.38
Technical skill	2.14		2.00		2.25		2.31		1.88
Viruses	2.36		2.00		2.67		2.54		2.13
Spam	2.68		2.56		2.75		2.85		2.38
Technical ass'tce	2.09		2.22		2.00		2.15		2.00

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Appendix C - 10 Data Summary for Faculty Respondents

3.1 Which of the following best describes your preference with regard to the use of technology in your courses?

- I prefer to use *no* information technology in teaching courses.
- I prefer to use *limited* technology features (e.g., e-mail to instructors and limited use of PowerPoint in class) in teaching courses.
- I prefer to use a *moderate* level of technology (e.g., e-mail, several PowerPoint presentations, some online activities or content) in teaching courses.
- I prefer to use technology *extensively* (e.g., class lecture notes online, computer simulations, PowerPoint presentations, streaming video or audio, etc.) in teaching courses.
- I prefer to use technology *exclusively* (i.e., are entirely online with no required face-to-face interactions) in teaching courses.

(Data presented = Response percent (%))

	DL FACULTY		FT FACULTY		PT FACULTY		HAE FACULTY		K12 FACULTY
	n = 21		n = 9		n = 12		n = 13		n = 8
Preference									
None	0		0		0		0		0
Limited	19		11.1		25		23.1		12.5
Moderate	33.3		22.2		41.7		38.5		25
Extensive	47.6		66.7		33.3		38.5		62.5
Exclusive	0		0		0		0		0

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Appendix C - 11
Data Summary for Faculty Respondents

3.2_3.6 To what extent does each of the following describe your experiences in your courses?
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

3.2 _____ My students are more engaged in courses in which I use technology.
 3.3 _____ Overall, I am confident of my ability to use information technology well in my courses.
 3.4 _____ My ability to use technology in my courses has increased my students' interest in the subject matter.
 3.5 _____ I primarily use information technology in courses to improve the presentation of my work.
 3.6 _____ My school needs to give me more training on the information technology that I can use in my courses.

(Data presented = Response *average*) ⇒ (Maximum points = 5.00)

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Agreement level					
Engagement	3.67	4.00	3.42	3.54	3.88
Confidence	3.81	4.11	3.58	3.69	4.00
Interest	3.38	4.11	2.83	3.08	3.88
Presentation	3.76	4.00	3.58	3.62	4.00
Training	3.62	3.67	3.58	3.38	4.00

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Appendix C - 12
Data Summary for Faculty Respondents

3.7_3.11 To what extent has the use of information technology in courses helped you?
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

3.7 _____ The use of information technology in courses has helped my students better understand complex or abstract concepts.

3.8 _____ The use of information technology in courses has helped my students better communicate with me.

3.9 _____ The use of information technology in courses has helped my students better communicate and collaborate with their classmates.

3.10 _____ The use of information technology in courses has enabled me to give prompt feedback to my students.

3.11 _____ Courses that use information technology allow my students to take greater control of their course activities (e.g., planning, apportioning time, noting success and failure).

(Data presented = Response average) ⇒ (Maximum points = 5.00)

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Agreement level					
Complex	3.38	3.67	3.17	3.31	3.50
Communicate	4.14	4.22	4.08	4.08	4.25
Stdnt cmctn	4.00	4.33	3.75	3.85	4.25
Feedback	4.24	4.11	4.33	4.31	4.13
Control	3.62	3.78	3.50	3.46	3.88

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Appendix C - 13
Data Summary for Faculty Respondents

3.12 [Required] Have you used a course management system (e.g., ANGEL, WebCT, Blackboard, Desire2Learn, or FirstClass) in teaching a class?
 No
 Yes

3.13 How would you describe your own overall experience as a teacher using a course management system?
 Very negative
 Negative
 Neutral
 Positive
 Very positive

(Data presented = Response percent (%))

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Use of CMS					
No	52.4	33.3	66.7	53.8	50
Yes	47.6	66.7	33.3	46.2	50
Rate CMS exp.					
Very negative	0	0	0	0	0
Negative	11.1	0	33.3	20	0
Neutral	22.2	16.7	33.3	0	50
Positive	44.4	50	33.3	40	50
Very positive	22.2	33.3	0	40	0

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Appendix C - 14
Data Summary for Faculty Respondents

3.14_3.22 How valuable did you find the following course management system features?

- 1 = Did not use**
2 = Not valuable
3 = Valuable
4 = Very valuable

- 3.14 _____ Syllabus
 3.15 _____ Online readings and links to other text-based course materials
 3.16 _____ Online discussion board (posting comments, questions, and responses)
 3.17 _____ Access to sample exams and quizzes for learning purposes
 3.18 _____ Giving exams and quizzes online for grading purposes
 3.19 _____ Receiving assignments online
 3.20 _____ Giving assignments back with comments and grades
 3.21 _____ Sharing materials among students
 3.22 _____ Providing a record of grades on assignments and tests

(Data presented = Response *average*) ⇒ (Maximum points = 4.00)

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
CMS component					
Syllabus	3.00	3.00	3.00	3.50	2.25
Online reading	2.80	2.67	3.00	3.33	2.00
Disc board	2.40	2.67	2.00	3.00	1.50
Sample exams	2.20	2.00	2.50	2.67	1.50
Giving exams	2.00	2.00	2.00	2.33	1.50
Receiving ass.	2.70	2.50	3.00	3.33	1.75
Feedback	2.40	2.33	2.50	3.00	1.50
Materials	2.80	2.67	3.00	3.33	2.00
Grade records	2.50	2.50	2.50	3.17	1.50

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Appendix C - 15
Data Summary for Faculty Respondents

3.23_3.24 Which of the following benefits from using information technology in your courses was the most valuable to you?

- Improved my teaching
- Convenience
- Helped me more effectively manage my activities related to teaching my course(s) (e.g., planning, apportioning time, noting success and failure)
- Helped me communicate with my students
- No benefits
- Other
- 3.24 Please describe (optional)

(Data presented = Response percent (%))

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Benefits					
Teaching	47.6	77.8	25	38.5	62.5
Convenience	47.6	55.6	41.7	38.5	62.5
Manage acts	33.3	33.3	33.3	30.8	37.5
Communicate	76.2	77.8	75	76.9	75
None	0	0	0	0	0

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3.24 Qualitative responses:

- ◇ Technology has allowed me to expand on content, refer to current cutting-edge research on content being discussed in classroom readings, etc.
- ◇ I have assumed that Blackboard, WebCt, etc. includes umdrive.

Appendix C - 16
Data Summary for Faculty Respondents

3.25 The use of information technology in my courses has improved my teaching.
 Strongly disagree
 Disagree
 Neutral
 Agree
 Strongly agree

3.26 Do you normally encourage students to bring their laptops to class?
 No
 Yes

(Data presented = Response percent (%))

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
Improved teach					
Strong disagree	0	0	0	0	0
Disagree	4.8	0	8.3	7.7	0
Neutral	23.8	22.2	25	30.8	12.5
Agree	52.4	44.4	58.3	46.2	62.5
Strong agree	19	33.3	8.3	15.4	25
Encourage laptop					
No	76.2	55.6	91.7	84.6	62.5
Yes	23.8	44.4	8.3	15.4	37.5

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Appendix C - 17
 Data Summary for Faculty Respondents

4.5 Do you reside in an area that accommodates broadband access to information technology?
 No
 Yes

(Data presented = Response *percent* (%))

	DL FACULTY	FT FACULTY	PT FACULTY	HAE FACULTY	K12 FACULTY
	n = 21	n = 9	n = 12	n = 13	n = 8
B'band access					
No	0	0	0	0	0
Yes	100	100	100	100	100

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4.8 If you have any other comments or insights about your information technology use and skills, please feel free to share them with us below.

Qualitative responses:

- ◇ Having just returned to University teaching after several years, I was somewhat overwhelmed by the changes and increased usage of information technology. I wish the University would take more time to find out what a newly hired adjunct knows and needs to know. I did not even know the questions I needed to ask.
- ◇ I believe mine is the last steam computer still in use on this campus.
- ◇ I have used IT in my courses extensively for over 20 years and have attended many seminars and workshops on how to use IT effectively. I believe that to do so well one must significantly modify how they conduct classes. I have learned a great deal about learning styles and use IT to accommodate variances as much as possible.