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Administrative Support for Online Teaching Faculty

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by

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A dissertation submitted in partial fulfillment of the requirements
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We hereby certify that this dissertation, submitted by John David Meyer conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirements for the degree of Doctor of Philosophy.

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An Abstract of a Dissertation Submitted to Nova Southeastern University in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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When administrators make decisions about the infrastructure support needs of a current or planned online teaching program, these decisions are often based on external expert advice rather than on the advice of experienced ground level faculty who are living with the dynamic nature of the technology and support needed to develop and maintain an effective online teaching program. Online teaching faculty are the best source of advice and information on what works and what does not.

Faculty at the Medical College of Georgia (MCG) were surveyed to find out what elements are important to the development of an effective online teaching program. Faculty were also asked to validate the Online Teaching Infrastructure Matrix designed to help campus administration evaluate the current administrative support they provide to online teaching programs. Many of the MCG faculty have 20 or more years teaching experience, but less than that teaching online. Data were collected through the use of a survey titled "Online Faculty Support Survey," which was developed by the researcher. The survey served to identify: a) faculty perceptions of what elements are important to the development of a successful online teaching program; b) which of those elements were in use at their specific institution; c) factors serving to enhance faculty participation in an online teaching program, and which factors impede their involvement; and d) faculty perceptions of the clarity and expected effectiveness of the Matrix.

The survey has been evaluated by a panel of experts consisting of a statistician, an instructional designer, a program support specialist, a multimedia support specialist, an academic services professional, an information technology network support professional, and two faculty online program directors. Careful analysis of the data received from the responses to the survey reveals specific areas that faculty deem important to an online teaching program, and whether their specific institution actively provides those important elements. The data were coded and further analyzed to identify areas where there may be significant differences between what faculty deem to be important elements of infrastructure support and what is actively provided by their institution.

The validated Matrix is a useful tool that administrative decision makers at MCG can rely on to help them maintain SACS accreditation standards, and other institutions can use it to develop an online teaching program or enhance an existing program. It can be modified to meet specific needs of the institution, or updated to reflect changing technology.

Acknowledgments

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Chapter 1

Introduction

The transition of education from the traditional face-to-face classroom environment to an online or hybrid environment is continuing to increase each and every year. University systems around the nation realize the future survival and expansion of their educational programs will depend largely on their ability to provide online education (Allen & Seaman, 2006).

Administrative support is the vital foundation to a sound online education program. Administrative support includes assistance in the form of funding, guidance, oversight, and assistance in removing the obstacles that hinder a healthy and well-supported online education program (Ryan, KayHodson-Carlton, & Ali, 2005). A healthy support structure begins with university administration promoting a synergistic environment conducive to innovation and results in the enthusiastic buy-in from faculty (Escoffery, Leppke, Robinson, Mattler, Miner, & Smith, 2005).

The basic essentials are the physical technology needed to begin even the most fundamental steps toward a successful online program. These include a campus network, secure access, data storage, and the appropriate type of technology on the desks or in the homes of each professor and each student, as well as in each classroom. Along with suitable up-to-date technology, faculty training, mentoring and preparation for teaching in

the online environment are critical prerequisites for a successful online program (Helton & Helton, 2005; Magiuka, Shi, & Bonk, 2005).

Other elements that affect online education programs include existing infrastructures designed for the traditional campus-only student. These include student recruiting, admissions, academic counseling, registration, financial aid, and other student services. Faculty who teach online often find themselves forced to fill in as substitutes for these other services because the existing administrative support departments are often ill-equipped to handle the online non-traditional student (Restauri, 2004; Tallen-Runnels, Thomas, Lan, Cooper, Ahern, Shaw, et al., 2006).

Traditional administrative support roles such as those of instructional designer, technology support specialist, and administrative advisor frequently fall to already overburdened online teaching faculty. These support positions also need to be redesigned, adjusted, and provided with timely training so that they can adequately fulfill the requirement for the services they provide in an online environment (Restauri, 2004).

Faculty who teach online need to know that they have a strong infrastructure to support their needs technologically, economically, and emotionally, but sadly most institutions fall far short of meeting the needs of online teaching faculty. Faculty who perceive that they have the backing of a fully-developed, well designed support structure for online teaching are rarely apprehensive about accepting the challenge, but in cases where faculty apprehension abounds, it is usually due to a serious lack of administrative support in one or more critical areas (McLean, 2005).

A good online program does not develop by accident. It can only develop through careful and purposeful processes that include courseware design, technology selection,

updating obsolete policies, promotion and acceptance of a paradigm shift, consideration of faculty workload, faculty and staff skills development, and removal of institutional barriers to the development of synergistic teamwork and interdisciplinary cooperation (McLean, 2005; Thompson, 2003).

The investigator has been deeply involved for the past seven years in the development of online training programs, and the transition of on-campus programs from face-to-face programs to hybrid and online programs. As the Director of Instructional Support and Student Affairs for the School of Allied Health Sciences (SAHS) at MCG, he has experience with many facets of administrative support for online education programs. Through the teaching hybrid and online courses, he has gained firsthand experience in learning and using the technology and resources provided by the infrastructure of the university.

Faculty at MCG teach with varied course designs, which include hybrid, blended, online or some combination of these. Universities across the nation, such as MCG, who are implementing Tegrity™ lecture capture software (www.Tegrity.com), or a similar competitor's product, are able to enroll online and campus students in the same course and teach them virtually at the same time. Tegrity™ allows the professor to record the lecture given to the campus students, including PowerPoint, annotations, and video demonstrations, and upload the lecture for Internet streaming within 30 minutes of completing the live lecture. Once uploaded, online or distant students in the same course can view the same lecture provided to their fellow students in the classroom a few minutes earlier. Campus students can also view and review the online lectures to study for tests or

to get clarification of difficult points (Briggs, 2008; Garrison, & Kanuka, 2004; Meyer & Russell, 2007).

Using Tegrity™ to teach in a fully online environment would differ only in that the professor would likely record the lectures in his or her office, or teach to an empty classroom in order to create the online lectures for the students. Portability of the Tegrity™ software allows faculty members the flexibility to record lectures at any time and from any location as long as they have a minimum of a computer, a microphone, and Internet connectivity (Briggs, 2008; Meyer & Russell, 2007).

Cutting edge technology such as Tegrity™ no longer requires a separation of online and campus students, thus blurring the traditional definitions of hybrid, blended, online or a combination of these forms of lesson delivery. Technology now allows students to view the same lectures either virtually or in the classroom and if a good Course Management System (CMS) is also used such as WebCT or ANGEL, the students can also be given assignments that require campus students to interact online with their fellow distant or online students (Briggs, 2008; Meyer & Russell, 2007; Osguthorpe, & Graham, 2003).

In the early 1990s a few departments at MCG began limited distance learning programs by utilizing a video-conferencing technology, through the Georgia Statewide Academic and Medical System (GSAMS; http://gsams.gagta.com/v3/master.html). Though the system used two-way T-1 trunks to provide full duplex video-conferencing, it could not be considered an online technology because it served only to connect two classrooms located at a distance. Distance programs that took advantage of the system were set up as cooperative agreements between campuses to provide healthcare programs at non-healthcare distant campuses (Crowley, Laurich, Mobley, Arnette, Shaikh, & Martin, 1999;

Mishoe, Karlin, Baker, Ogilvie, Arant, & Rupp, 1997). True online teaching did not begin at MCG until the late 1990s when the campus decided to adopt WebCT as its CMS (http://www.webct.com). Since then the campus has adopted a variety of new technologies that have steadily improved the development and delivery of online programs, but much of the change and development has been driven either by individual faculty or by necessary upgrades made by the Information Technology (IT) department. No comprehensive online teaching plan has been developed, and though the campus has the infrastructure to support online education, no clear vision or direction has been given or implemented to guide the use of the technology.

Most of the online programs revolve around the use of what WebCT evolved into, which is now GeorgiaVIEW (a.k.a. WebCT Vista; http://www.alt.usg.edu/gaview/). The CMS, now available to all campuses in the University System of Georgia, provides the single point of organization for professors to begin placing content online in the development of an online course. The technology however, does not provide the much needed planning, technology knowledge, and administrative support that in most cases were put into place to support the traditional campus student.

Through the investigation and the subsequent validation of a developmental Matrix for administrative support, a systematic process was developed by which MCG and others with similar needs can reorganize the campus infrastructure to better handle the challenges of online program development. The resulting model and Matrix evolved from the cumulative experiences reported in the literature, and from real time experiences of faculty from the trenches of online course development.

Problem Statement

The online teaching needs of faculty often go unmet by the institutional infrastructure because administrators frequently fail to understand how technology is rapidly changing the way instruction must be delivered to meet student demand. Other factors such as instructional design, student admissions, registration, faculty and staff development, and faculty workload are impacted tremendously by the adoption of an online program, yet much of the time these entities are ill-prepared to handle the changes that the online students will bring (McQuiggan, 2007).

Institutional support for online and distance education is subpar in many institutions when it comes to faculty development, faculty incentives, and student assistance. Online education programs are often developed in haste to meet growing demand, but the infrastructure, policies, and support entities are often not in place to support the demand (Tallen-Runnels et al., 2006).

A fair amount of literature depicts case studies and portrays faculty's needs for improved administrative support, but little is provided in terms of systematic methods to provide a guide for the improvement of administrative support as a planned process for online program development. Studies that look at the institutional support needs of all faculty at an institution or across several institutions are few (Ali, Hudson-Carlton, Ryan, Flowers, Rose, & Wayda, 2005).

Goal

The goal of the dissertation was to implement effective administrative support for online teaching faculty by establishing procedures and processes specified within a Matrix.

Literature on the topic was reviewed and was used to develop processes within a Matrix to work as a guideline to implement online teaching programs. Data were gathered on faculty administrative support needs that served to validate the design of the developmental Matrix. The Matrix serves as a procedural tool to help campus administration better evaluate their administrative support and realign resources to effectively provide for the needs of online teaching faculty.

Relevance and Significance

A problem cannot be resolved until the nature of the problem is understood by those with the power to act on the resolution. The results of the investigation help administrators and those in positions of power at educational institutions to understand the issues faced by online teaching faculty who attempt to make the best of the resources provided, but need better training and support to provide a quality product for their online students. Online teaching faculty who are fortunate enough to have a good infrastructure to support their efforts are more likely to be prolific in their online teaching endeavor (Abramson, 2003).

Efficient and effective use of technology in an online environment requires administrative support at all levels of the institution. Frith and Kee (2003) found that many faculty blame the loss of students on the instability of the infrastructure and the inability of campus support personnel to work through issues that often frustrated online students and prevented them from having a successful online experience. Though IT personnel are not faculty and may not have daily or direct contact with the students, in an online teaching

environment their actions or inactions can significantly impact the success or failure of academic programs.

Effective faculty training and mentoring are crucial to the successful use and integration of technology for online and distance education. A teacher's attitude toward technology is a significant factor in how and if technology is integrated with the curriculum. The faculty's attitude toward technology can be greatly influenced by the infrastructure support, training and mentoring provided (Bahr, Shaha, & Farnsworth, 2004; Helton & Helton, 2005). In places where a well-developed plan for teacher training and mentorship was instituted, teachers were very receptive and even eager to integrate technology into their curriculum (Grove, Strudler, & Odell, 2004; Tallen-Runnels et al., 2006)

Research Questions

The following research questions guided the investigation:

1. What do faculty members perceive to be the most significant needs in developing, and supporting the delivery of online education?
2. What aspects of the online teaching environment are different from the campus (face-to-face) environment and thus demand different considerations?
3. What incentives or rewards do faculty members need to encourage enthusiastic participation in online or hybrid education?
4. How do current institutional policies and processes support faculty who teach online or hybrid education?

5. What existing administrative support programs do faculty find effective in supporting the development and delivery of online or hybrid education?
6. What are the faculty needs with regard to training, mentoring, or assistance in using the technology associated with delivery of online or hybrid education?

Barriers and Issues

The investigation sought to uncover the specific issues faced by faculty through the design of an online education development model and Matrix. The Matrix (Table 1) was evaluated by online teaching faculty through the use of a survey (Appendix A) that can be used by all institutions seeking to discover better ways to develop and support faculty who teach online.

The most obvious of the barriers as indicated by Bruner (2007) is faculty reluctance to respond to the survey either out of fear of reprisal or due to time constraints. The survey was conducted anonymously, but some faculty may be apprehensive that their answers could be tied to them, or may be misconstrued in some way. Other faculty members spend their days continuously overwhelmed by the tasks needed to develop and manage a good educational program. These faculty members may feel that they do not have the time to spend answering yet another survey.

Many studies reported here point to the fact that most faculty lack essential technological knowledge to effectively create and manage an online program. Many also show that most administrators are either oblivious to the lack of technological savvy among faculty or are at a loss as to what appropriate action to take that would alleviate the situation. Others point to some obscure idea, plan, or process that worked in one particular

situation, but nothing is known about how or if any of these techniques and methods would be effective for the masses. Some show what faculty members perceive to be the issues they face in online education, but little knowledge is provided about how or why their needs are not being met at their institution.

Limitations

1. An inherent limitation is that the investigation was conducted among healthcare professionals, so the results may be generalizable only to other healthcare institutions.

2. The data collected were limited to faculty who responded and shared their views about the current status of administrative support.

3. The focus centered on the infrastructure needs of online teaching faculty. Faculty who do not teach online may have similar or differing needs that have not been addressed with the data collected here.

4. Because of the dynamic nature of online teaching technology, some of the elements addressed may become irrelevant over time.

Delimitations

1. Since the investigation focused specifically on faculty who teach online, there may be no direct indication of how well administrative support may be working in other areas of academia.

2. The focus is on online teaching, online teaching technology, and online teaching faculty. The infrastructure and administrative support evaluated here was observed from

the perspective of an online teaching program without consideration or regard for the needs of other types of programs.

Assumptions

1. Respondents to the survey provided honest answers.

2. Faculty understood the questions asked in the survey.

3. Online teaching faculty have the ability to decide what type of support they need or don't need.

4. When asked to evaluate and validate the Online Teaching Infrastructure Matrix, faculty have enough expertise and take the time to decipher each stage of the process in order to give an honest answer.

Definition of Terms

Blended Learning: Blended learning is a combination of online and face-to-face learning activities, students, or instructors (Osguthorpe, & Graham, 2003).

Computer Literacy: A term used to refer to an individual's capacity to intelligently use computers (Hirschbuhl & Kelley, 2007).

Course Delivery System: Any software or Web-based product such as Tegrity™, Camtasia, Impatica, or Elluminate that performs the function of lecture capture and delivery, or online delivery of multimedia lessons or lectures (author).

Course Management System (CMS): Software such as Blackboard, WebCT, or ANGEL, that contains a number of integrated instructional functions that help manage, organize, and deliver educational content online (Ko & Rossen, 2001).

Curriculum: A list of courses and content framework for a subject (Morrison, Ross, & Kemp, 2004).

Distance Education: Distance learning that includes evaluation by distance educators and two-way communication via either computer, telephone, or mail service (Hirschbuhl & Kelley, 2007).

E-Learning: A term often interchangeable with online learning or Web-based learning; could include online, distance learning or computer assisted learning (Ruiz, Mintzer, & Leipzig, 2006).

Hybrid Classes: A hybrid class is a class that incorporates the use of face-to-face instruction and online instruction (Rovai, & Jordan, 2004).

Interactive Multimedia: Two-way dialogue between user and computer that allows the combining, editing, and orchestrating of sounds, graphics, moving of pictures, and text (Hirschbuhl & Kelley, 2007).

Learning Management System (LMS): A term often interchangeable with CMS, but in some instances having slight differences in characteristics and features (Ruiz et al., 2006).

Multimedia: Computer program controlling the display of verbal information along with still photographs, video, and audio sequences in various formats (Morrison et al., 2004).

Online Learning or Training: Learning delivered over the Internet using the World Wide Web or other Web-based online educational technologies (Kaplan-Leiserson, 2008). For the purpose of this research, online learning or training is identified as an online means by which students learn and faculty teach. Students and faculty may or may not be geographically separated in order to take advantage of online learning (Author).

Validity: Direct relationship between survey questions and the data collection objectives (Morrison et al., 2004).

Video Conferencing: A term used to identify video and audio discussion between groups in different locations by means of electronic communication (Hirschbuhl & Kelley, 2007).

Summary

Experts in various fields such as technical managers, infrastructure planners and directors are often the only sources of advice when it comes to what faculty need to effectively conduct an online training program. This study in contrast, went directly to the frontline faculty member to ask for his or her opinion on what is important to the success of an online teaching program. Intuitional infrastructure support often falters because of a lack of direct communication with the faculty who may know best how to solve the important issues.

The goal was to develop and validate a Matrix (Table 1) that can be used to effectively evaluate institutional infrastructure support for online programs. This Matrix provides information administrators can use to make important decisions about how to develop and support their existing or planned online teaching programs.

A well-designed online teaching program, supported by a solid and well-developed infrastructure can play a major role in the retention of top faculty and also in the retention of online students. The research questions posed shed light on the direct impact infrastructure support has on the success of an online teaching program.

Chapter 2

Review of the Literature

Overview of the Literature Review

The review of literature examines three differing but commingled perspectives that provide deeper insight into the needs of faculty and students in the online teaching environment. These perspectives include faculty training needs, administrative support needs, and faculty perceptions of how needs are being met by the institution. Online education forces faculty to take on roles normally provided by institutional support in a traditional campus setting. Restauri (2004) declares that online faculty must often become the instructional designer, technology specialist, and administrative advisor because they are the first line of contact for all distance students. These roles are not normally considered when administrators plan for an online education program. What is known is that the traditional administrative support roles must change to accommodate an online teaching environment. What is not known is exactly how they must change and what these changes should entail.

Online education and continuing education for both faculty and students are beginning to grow and improve and the initiatives are already underway to make this a reality. One initiative at The Harris School of Nursing (HSN) at Texas Christian University

(TCU) began when they received one of the Nursing Innovation Grants from the Texas Higher Education Coordinating Board in 2001. The purpose was to develop and educate nursing faculty in rural communities. It grew from many years of failed attempts to recruit new faculty for these underserved areas. By providing an online education program for existing faculty and nursing staff, this rural community is now able to effectively "grow its own faculty" and the initiative will also curtail turnover because local residents can now learn and work right in their own community (Baldwin, Walker, & Evans, 2004).

Faculty Training Needs

Before an online teaching program takes flight, faculty should undergo appropriate training in the technical aspects of the endeavor, as well as training to better understand how curriculum must be modified to fit the online environment. It may be difficult for administrators to comprehend the importance of training for online teaching faculty, because historically no training was required of new faculty other than completing the basic educational requirements. (Abramson, 2003). As could be expected, in most healthcare university settings the concentration of study is on medicine and not technology. The lack of a technology-based curriculum at healthcare universities creates a technological gap for both faculty and students.

Even though technology and online training provide better flexibility in the ability to access valuable training, administrators still need to be mindful of the time constraints and limitations experienced by faculty. Moody and Kindal (2004) found that limited time was the number one barrier to the continuing education for faculty. This is one area where administrators can assist by providing release time that is dedicated exclusively to the faculty development. Limited faculty time seems to be a problem that is pervasive at all

institutions of higher education. Administrators have elaborate algorithms and formulas to help plan and schedule time for faculty to teach, but rarely is time for faculty development considered. Adding faculty development time as a primary consideration can go a long way in helping faculty increase their job satisfaction, self confidence, and the overall quality of educational development and delivery.

For training to be effective it must be provided when and where faculty can take the best advantage of it. A comprehensive set of basic computer skills needed by the common user to function effectively can be easily identified, but it is not as easy to identify the exact skills faculty will need in a particular classroom or online setting. This is an area where decision makers can focus attention and examine how to develop *effective training*, specific training needed for the busy professor, delivered online when and where it is needed (Gong, YanXu, & Yu, 2004; Hiltz & Goldman, 2005).

Mentoring, long or short term, should be a natural progression that follows online training. A common mistake is to rush faculty through online, classroom or even hands-on training, and then release them to go do it on their own. For some of the more technically savvy faculty, this training method will suffice, but for others, mentoring is needed to get them marginally proficient in their classroom environment. It is common for faculty to attend valuable training, training which they feverishly praise in all their reviews, only to return home and never put it into practice. This is one reason why ongoing mentoring should be an integral part of the training process. When faculty are ready to apply what they have learned, mentors can then provide valuable assistance by helping to refresh what they have learned and by showing them in a familiar environment how to apply their newly acquired knowledge effectively (Grove, et al., 2004; McKenzie, Ozkan, & Layton, 2006).

Bruner (2007) found a significant deterrent to faculty that kept them from being more willing to participate in online education; he referred to this deterrent as the hassle factor. His studies confirmed that the added workload, lack of release time, lack of training, lack of real incentives, and frequent frustrations with technology all came together to build a barrier that he considered the number one reason faculty avoided online education. His advice to administrators is to focus more attention on removing each of the issues that accumulate and develop into the hassle factor. Removal of these barriers would create the less threatening work environment faculty desire to have and promote a more cooperative and cohesive interdisciplinary workplace for all.

Other factors reported by faculty as reasons they avoid an online teaching program, included a fear that online programs would diminish the traditional community involvement by campus students and loss of personal contact with face-to-face students. All of these fears are very real to faculty who have no experience with online teaching, and in some cases these fears become reality when an online program is not properly managed (Bruner, 2007).

Support and incentives from administration are very important factors in effective faculty encouragement, and for faculty to learn better tools for teaching online or to integrate new technology into their curriculum. The funding process for training should be made part of the funding for infrastructure development. Funding for faculty training should be part of the incremental cost of adding technology or online programs to the educational process. Factors that should always be included in any well-designed online training plan include staff and faculty training and support, student support, and student training on how to use the online tools (Magiuka, et al., 2005).

Finley and Harman (2004) suggest that academic leaders provide learning opportunities along with incentives. Technological innovation can be promoted by offering mini-grants for collaboration on teaching projects, co-taught courses with infusion of technological tools, and even release time to relieve some of the pressure of the new learning environment. Of course, all faculty should be praised for the efforts and attempts to use and integrate new technology. Nothing says *good job* better than recognition from management either privately or publically. While some appreciate private recognition for a job well done, others may prefer peer recognition.

Each step of the design, development and implementation process for online learning systems should also include planning, funding, and implementation of training for faculty and staff who will use the systems on a daily basis. Universities need to develop written policies and guidelines that will shore up the foundation of support for online training and how the effort will be funded. Before faculty are asked to take on additional responsibility of teaching online, the training, mentoring and recommended incentives should already be mapped out and funded (Helton & Helton, 2005; Tallen-Runnels et al., 2006).

Singh and Pan (2004) agree that early planning and coordination at all levels is crucial to the successful support necessary to provide faculty with the indispensable training for online courseware development. An institution cannot simply decide that it is going to teach online and be up and running in a few days. Buy-in from administrative leadership is the first decisive step. With this buy-in comes the support and funding needed to make the effort a success. This is also the point where many times, while funding requests are calculated and approved, the funding for training is frequently overlooked.

Yes, it is true that funding for infrastructure support, hardware, software, and system administrators is important, but these elements are usually central to the planning and funding process and are less often overlooked as is funding for staff and faculty training. Any well-designed online training plan should include training and support for staff, faculty, and students on how to use the online tools (Magiuka, et al., 2005).

Bahr, Shaha, and Farnsworth (2004) confirmed that faculty who already possessed at least some technological experience and know-how, consistently displayed a more positive attitude toward the idea of implementing new technology within the curriculum or for teaching online. In essence, the results seem to indicate that at least some computer literacy becomes a positive tool in enhancing the acceptance of even more technological advancement. The very same study with the control group who received no instruction in educational technology, actually showed a slight decline in attitudes toward the use of technology in education. This result implies that prolonged technological ignorance has the potential of fostering even more technological ignorance. The authors suggested this was an area that merited more detailed research and investigation. These results would suggest that the sooner individuals are introduced to new technological advancements in their field of study, the more receptive they will be to future developments and tools. As pre-service teachers learned technological tools along with their normal curriculum, they were able to see how things fit together and were able to better understand the benefit of using technology in the classroom through their own experience. The experience then resulted in a more open acceptance of even higher levels of technology.

Qualified healthcare professionals who are willing to teach are difficult to find, and it is often difficult to find the right balance between clinical responsibilities and teaching

needs. By developing better educational training, recognition, incentives, release time, and other support, Medical School faculty could be better prepared to use the new technologies involved in classroom and online teaching. Experienced healthcare professionals may be skilled in their primary discipline and may have valuable insights to share in the classroom or online, but without proper training the educational experience could prove painful for both faculty and students. The planning must first establish standards and a well organized set of technical and general competencies designed to effectively prepare clinician educators. Then initial and ongoing training needs to be provided so faculty can stay abreast of developing learning technologies (Weinberger, Smith, & Collier, 2006).

Administrative Support Needs

Efficient and effective use of technology in an online environment requires administrative support at all levels of the institution. Frith and Kee (2003) found that many faculty blamed the loss of students on the instability of the infrastructure and the inability of campus support personnel to work through issues that often frustrated online students and prevented them from having a successful online experience. Though IT personnel are not faculty and may not have daily or direct contact with the students, in an online teaching environment their actions or inactions can significantly impact the success or failure of academic programs.

Rayn, Hodson-Carlton and Ali (2005) presented an exceptional model that captures many of the facets that should be considered when teaching online. They also developed and tested a Matrix that outlines factors to be considered and the sequence that takes place when nursing faculty develop an online program. The focus in the development of an online program should be to preserve as much of the same qualities that made the face-to-

face program a sound product while making improvements for online presentation. Factors that should be considered include: How can student/student and student/professor relationships be preserved and developed in an online and often isolated environment? How must the teaching strategies change to accommodate technology and the online environment? How is the course content affected when moved from a campus to an online environment? What infrastructure support functions must change or be modified to accommodate online teaching environment and the online or distant students? Each of these factors provides its own set of needs that should be carefully considered when developing an online program (Ryan, et al, 2004).

The development of an online program should begin with a careful evaluation of the process involved in such an undertaking and an evaluation of each of the factors affected by such a move. The infrastructure that must be in place before an online program can even begin to be developed includes the support from administration, technology support systems, a Course Management System (CMS) or process, faculty and staff development systems, and policies that will drive the development process. These policies must specifically outline how questions of content ownership will be handled, how faculty will be compensated for their online teaching effort, and how the appropriate course workload will be determined for the online programs. Once these initial steps have been taken, then the process of online program development can begin (Ryan, et al, 2004).

Models of e-Learning

If the infrastructure support is not appropriately designed, equipped and trained, faculty are often burdened with additional roles of instructional designer, technology

support specialist, and sometimes even administrative advisor or admissions processor. Restauri (2004) discusses two prevailing models often used by default on campuses for the development of online programs. The first model, the individual model, seems more prevalent than it should be. It consists of the process where individual faculty are left to fend for themselves in gathering of support, learning new technology, and designing an online program from scratch with little or no support from the infrastructure in place. Programs developed under this model often fail due to faculty burnout, poor course design, or a technology infrastructure that is so riddled with problems that students quit the program due to the frustration of frequent disconnects and the inability to get the technology to work as intended.

The second model, the team approach, has proven far more successful and resilient. With this model, campus administration actually develops a teamwork approach where experts from each critical area of the infrastructure are intimately involved in the online course developmental process from beginning to end. In some cases new technology support personnel must be hired to support the online technology needed for the program. Other support personnel such as content developers, instructional designers, and administrative support are either realigned to support the online endeavor or new personnel are hired to provide the support. The second process may seem more expensive at the onset, but in the long run it can save critical faculty from quitting in frustration and encourage more student enrollment. Universities that use the team approach also experience much better buy in from faculty campus wide (Restauri, 2004).

Escoffery et al. (2005) identified what a team structure should look like and the traditional roles of each team member in the process of online course delivery. Faculty are

generally expected to develop the course content, interact with students, and provide guidance in an online course environment. The roles of other players include the instructional designers who are expected to provide assistance in developing course materials, provide assistance with integration of technology with the curriculum and provide expertise on the implementation of online courseware. They may also serve as a liaison to the program, provide faculty and staff with guidance and expertise on distance learning, assist faculty in identifying course needs, and help troubleshoot technical or software problems when they arise. Multimedia staff are frequently tasked with the roles of designing and developing web pages, upkeep, maintenance, and support of training software and technologies, assisting faculty in the development of new online technologies, researching, evaluating, testing, recommending, implementing, and supporting new courseware and other online applications, and maintaining security and backup of all educational data. Unfortunately the reality is that these roles are ideal scenarios, and not the norm. The norm is that most faculty fulfill many if not all of the roles mentioned above in addition to their teaching load as part of an online teaching program (McQuiggan, 2007; Restauri, 2004).

Pauoluccci and Gambescia (2007) reaffirmed earlier research conducted by Laird (2004) where he found that online infrastructure support often can be identified or categorized into one of four general models of e-Learning integration. At some universities the *Independence or Distance Education* unit is established as its own sub-department within the larger campus but operates independently from the rest of the campus and has no real connection to the traditional academic mission of the campus. The independent or distant education style may have worked in the past, but in the modern university system it

is becoming much more efficient and effective to have an integrated system (Lee, Chun, Im, & Heo, 2003).

In the *Lone Wolf Model* as Laird (2004) calls it, each faculty member is given exclusive control over how he or she will create and deliver in the online program. The *Silo Model* is similar to it in that each department in the institution operates independently from any other departments on the campus. These examples can work in a very small organization, but can quickly result in chaos and redundant support systems in a larger organization. Portions of these models still have merit however, since the faculty member is usually the subject matter expert, a limited amount of autonomy should be given within each department to have a certain amount of control over the look, feel, and presence of the online learning experience for students (Paolucci & Gambescia, 2007).

The fourth and final method Laird (2004) discusses, is the *Integration Model*, and is probably the most progressive and forward thinking model in the group. The process brings together all the campus resources and unifies the traditional instruction with the online instruction, creating a synergistic effect that allows technology, infrastructure, and resources to be shared by all faculty and staff. The online learning and the traditional learning infrastructure are combined and share resources equally. This method maximizes efficient use of administrative and technological resources, minimizes redundant systems and costs, and allows faculty to provide better quality instruction in a more productive atmosphere (Paolucci & Gambescia, 2007).

Faculty Perceptions of How Needs are Being Met

Far too often university administrators seek the advice of experts or pay for expensive studies when simple communication with their own faculty would reveal the important facts about faculty needs. Depending on the university culture and composition of the faculty, there may at times be reluctance or apprehension to reveal the true needs and desires for fear of political reprisals. In most cases anonymous surveys can help bring out the true desires and needs of the faculty without making any one individual feel uncomfortable. Bruner (2007) discusses how one small university used surveys to solicit feedback from the faculty on how to approach the implementation of a new online education program. The anonymity of the survey process allowed those who agreed or disagreed with the process to freely indicate their agreement or objections without fear of political incorrectness. Open-ended questions gave administrators good insight into what the faculty liked, disliked, wanted, needed, or feared.

There are also different types of infrastructure support needs for different types of faculty. Faculty teaching purely online from their home with little or no physical contact with the home campus are naturally going to have different support needs and expectations from faculty who teach online in a campus setting or who teach both online and on-campus courses. McLean (2006) outlines how faculty who teach online from home must be very independent, self-starters, with no need for constant supervision in order to be successful in the solitary online teaching environment. Someone who needs to feel a strong connection or affiliation with other faculty or to the university campus may not do well as a stay at home online instructor. The online teaching environment is also much different from face-to-face teaching because many professors get the sensation that their job is never done.

They are always on call, always on an electronic leash, subject to be interrupted at any moment with a question or an inquiry from a student, another faculty, or an administrator.

Administrators of online education programs need to be sensitive to the stresses of the online environment and the danger of faculty burnout that is very real. Administrators and faculty need to work together to set limits on the intrusion into personal time and to ensure the technology does not create an unhealthy environment for the faculty (McLean, 2006).

In the online setting for students in various healthcare fields the technology for online instruction can often go beyond the traditional computer Internet learning environment. Students must stay current in other technologies that are being used in the healthcare field such as portable devices used for bedside patient diagnosis or home visits, tablet PCs, and other similar devices, which means that faculty must also stay up-to-date on these types of technologies. Allen, Schumann, Collins, and Selz (2007) discuss how one university system is partnering with rural clinics to provide mentors and preceptors that commit to providing the hands-on practice for online students so they can get practical experience with the technology they learn online. This process however, requires a lot of flexibility on the part of administrators in providing release time for faculty to be able to take part in the extensive orientations, mentoring, and training that is needed to make the program a success.

Studies show that effective training and mentoring are crucial to the successful use and integration of technology for online and distance education. A faculty's attitude toward technology is a significant factor in how and if technology is integrated with the

curriculum. The faculty's attitude toward technology can be greatly influenced by the infrastructure support, training and mentoring provided (Bahr, et al., 2004; Helton & Helton, 2005). In places where a well-developed plan for faculty training and mentorship was instituted, faculty were very receptive and even eager to integrate technology into their curriculum (Grove et al., 2004; Tallen-Runnels et al., 2006).

When faculty are surveyed, they say they want better technology training, but often when it is offered they do not take advantage of it, due to lack of faculty release time, and training that does not cover specific areas that faculty need. To alleviate situations that proved difficult in enticing faculty participation, Tallen-Runnels et al (2006) found that it often helps to have better organized and better designed training schedules for faculty. It also helps to have follow up sessions with mentors who can help reinforce or demonstrate what was taught in the classroom.

Administration's Perspective

The research problem focused on the needs of faculty and the value of faculty feedback in administrative decision-making. The administrative perspective may be somewhat different depending on the institution and the varying needs at each level of administration. One unifying objective however, is accreditation. While one may be able to find differing points of view about how online education should be implemented and supported among administrators at different levels, accreditation sets standards that must be adhered to by all levels of administration. As a Southern Association of Colleges and Schools (SACS) accredited institution MCG must follow the guidelines put forth by this governing body. Administrative officials at MCG are committed to working with faculty

and other experts to ensure the requirements for accreditation are met and continue to be met.

SACS established that distance education courses and programs must comply with the *Principles of Accreditation* which are specific standards that must be followed by every institution who wishes to be accredited or remain accredited by this governing body. By following the standards and policies established by SACS, administrators can not only secure accreditation but they also have a pre-established set of general guidelines to help them begin the process of developing an online program, or strengthen one already in place (Commission on Colleges Southern Association of Colleges and Schools CCSACS, 2007).

The Distance Education Policy Statement includes the following provisions to help administrators abide by accreditation guidelines and to ensure standardization and quality of distance or online education programs:

1. Education must include interactions between students and faculty and between students to promote appropriate interaction between all parties involved.

2. Ensuring the technology is adequate to support the online or distance education effort is a requirement that seeks to demand quality equipment to support the endeavor.

3. Administration must develop policies that cover faculty compensation and copyright issues to ensure everyone understands what is expected and how the process will be governed.

4. Ensuring faculty are sufficiently supported in a way that directly relates to the distance education process is a requirement that demands specific support factors are put into place before an online or distance education programs is implemented.

5. Ensuring adequate training is provided to faculty who teach online and distance programs is a requirement intended to make sure faculty receive the training they need before implementing an online or distance training program.

6. Ensuring that distance and online programs are sufficiently compatible with campus-based programs is essential in maintaining credibility as well as accreditation.

7. Library resources must be readily accessible to online and distance students not only for accreditation, but it is an essential part of the teaching process.

8. Ensuring that distance and online students have adequate access to laboratories and other required equipment and facilities is also required by SACS.

9. Administrators must insure that the administrative services such as admissions, financial aid, academic advising, mandatory course materials, and placement or counseling services are all provided and accessible to the online or distant student and that access is equivalent to that of campus students.

10. With regard to technology, SACS also requires that the online or distance technology used by the institution is usable by the student, and that students are able to gain access to the equipment necessary to use the technology.

11. The requirement also states the need for appropriate equipment and the expertise to operate the equipment. This requires reliable server support and a customer oriented IT service department.

12. Finally, SACS also requires that administrators conduct long-range planning, develop budgets, policies, and processes needed to effectively support the staffing, equipment and other resources essential to the implementation of a distance or online program (Commission on Colleges Southern Association of Colleges and Schools CCSACS, 2007; Tallen-Runnels et al., 2006).

The accreditation guidelines listed above are the driving force behind the decisions made by administrators concerning the course of action to take when developing an online or distance education program. Every program at the institution must meet accreditation standards in order to be considered an option at all. If administration chooses to implement an online program, and the university is located in the Southern part of the United States, then SACS standards are the guidelines that must be adhered to first and foremost.

Magiuka, et al., (2005) discuss ten critical design and administrative concerns that were a vital part of the decision making process for the careful planning and development of what is now Indiana University's Kelley Direct (KD) online program. In the early stages of the planning process, KD administrators and planners searched the literature to find what other universities had done in similar situations. They found six elements or questions that could be posed for careful consideration by administrators when planning and developing an online teaching program. These elements included a focus on the vision of the university and the plans for the future; 2) how the curriculum would change for the

online environment; 3) what was needed to train the faculty and staff and provide for continued support services; 4) how student services need to be modified for online support; 5) what kind of student training and support would be needed; and 6) what kind of policies would be needed to address the question of copyright and intellectual property (Levy, 2003).

In addition to the six elements there were ten administrative concerns or issues to be considered. The first was that a decision had to be made on which student group would be served by the online program. Would this program be a substitution for current part-time or residential programs, or would it target new students who could not attend current campus offerings? University administrators decided that the KD program would be a separate entity from the traditional programs offered by the Kelley School of Business at Indiana University. The program would run parallel to the on campus programs and would share the same faculty (Maguika, et al., 2005).

The second issue facing administrators was how the graduates would be treated and whether there would be an online identifier on the diploma. Administrators decided that since the same faculty who taught the program in residence would also be teaching the online program, there would be no need to identify the online program as being any different than the residential program. Both sets of students would receive equivalent instruction. The third administrative factor to consider dealt with whether to have a residential component to the online program, and if so for how long and how often. Because there was a fear that students may feel isolated from the main campus, a week-long residence component was established as essential to the online program (Magiuka et al., 2005).

The fourth administrative issue is how faculty should be used to provide instruction in the online program. Would they only teach in-load, or would they be allowed to teach overload? Factors to be considered in this issue were: could this be accomplished by using existing faculty, hiring temporary faculty, or developing a plan to use both full-time and adjunct faculty. A faculty committee was formed to help make this decision and it was decided that existing faculty would be allowed to teach overload, but be given additional compensation (Magiuka et al., 2005).

The fifth administrative factor was whether to focus the design effort and funding on developing teaching templates for adjunct faculty to use, or to provide training for existing faculty on the finer aspects of online pedagogy? The development of templates for online courses assists in streamlining course content and course layout so that temporary or adjunct faculty can be used to teach the course, but quality of instruction often suffers with this option. Full-time faculty are more expensive, but provide a higher quality of education. For the KD programs administrators decided to use full-time faculty in order to maintain a more professional culture (Magiuka et al., 2005).

A sixth factor considered by administrators was whether any type of template would be used to streamline or standardize online instruction. Students often prefer a standardized template so that the location of options and features are the same across all courses. Administrators decided to implement a standardized template for the online component so that all courses would have the same look and feel (Magiuka et al., 2005).

The seventh administrative issue was how much interactivity to design into online courses, and how much of the interactivity to leave to the judgment of the individual

faculty. This is an issue that deserves careful consideration, because the greater interactivity designed into the course the more work is created for faculty to monitor and participate. Students often expect or demand immediate response from faculty in an online environment, and if that response is delayed students often express extreme dissatisfaction with faculty responsiveness. Ultimately, in the KD program, the decision was left up to faculty to decide how much interactivity to build into a course (Magiuka et al., 2005).

The eighth administrative factor is whether to use commercial off-the-shelf online technology, open source technology or whether the campus should develop its own proprietary teaching tools. There are numerous advantages and disadvantages to consider with any online teaching technology, so this process may take some time. In the end, the KD program decision makers decided to adopt the ANGEL CMS with the understanding that in-house programmers would make modifications as necessary to meet online teaching goals.

The ninth issue was how to select a CMS that would best fit the goals and design of the curriculum to be placed online. Some universities may start out with one CMS and later decide to change over to another one that best fits the needs of the growing online program (Magiuka et al., 2005).

The final factor for administrators to consider is the identification of the role corporate partners and alliances with other universities will play in the design and implementation of an online teaching program. This decision will inevitably be different for each university system because it is closely tied to the types of programs that will be

offered. Corporate partners may request specific accredited training for their staff and corporate leadership.

The economics of administrative decision-making may be driven more by a desire to expand enrollment. Where expansion once meant costly land purchases and building projects, online education programs may seem like a much less expensive alternative. Other important administrative considerations are collaborative agreements, not only with other institutions, but also with corporations that may become a valuable source of funding. Online education has brought on a new paradigm of cooperation between governmental and private agencies seeking to pool resources and share expertise. Collaborative efforts can spawn a new age of flexibility in curricula implementation (Allen, et al., 2007).

Top administration officials at MCG have expressed a desire to make MCG a *Destination Location.* Meaning they desire to create an environment where faculty are thriving and outside faculty are lining up to apply. In order to do this they have commissioned several studies to help determine the best courses of action to take to make MCG not only a desirable university for students to attend, but also a very desirable university for faculty to work and grow. One such study came from a committee formed to study the best course of action to take in the creation and implementation of long term faculty development programs. Included in the proposal submitted was a faculty mentoring program, a leadership program for administrators, and improved tenure processes to help faculty develop into viable contributors to the university system. These endeavors and others like them, show an ongoing desire by administrators at all levels to promote good support processes and the wellbeing of faculty at MCG (Chamberlain, S., Salazar, W., Barbara Kiernan, Lefebvre, C., Prasad, P., Wark, E., et al., 2007).

The Vice President for Information Technology, Associate Provost and Chief Information Officer (CIO) at MCG, Ms. Beth P. Brigdon, has clearly outlined the goals and core values for the support of faculty by declaring that the Division of Information Technology Support and Services (ITSS) would provide a robust IT infrastructure, and the services needed to relieve faculty from the burden of dealing with the technology needed to support the many programs at MCG. This commitment to support reaches across the entire campus and includes technology at all levels to include online teaching programs and technology in the classroom. Formal and informal surveys are conducted regularly to obtain feedback from faculty and administrators. Suggestions for improvement are always welcome (Brigdon, B. P., 2007).

The Infrastructure Services Division, under the direction of Mr. Onley Howser, at MCG confirms the commitment to providing highly available and reliable networking, telecommunications, and file server administration services to MCG campus in support of all programs whether they be online or campus only. This is the division responsible for most of the foundational aspects of what is needed before any online program can be established. Without a reliable network, and up-to-date file servers, no online teaching would be possible (Howser, O., 2008)

The Research & Instructional Technology Support Division, under the direction of Mr. Mark Staples, is charged with providing a team to assist faculty not only with the instructional design element, but also with the assistance needed to merge the technology with the curriculum. The efforts of this team help improve interactivity and deliver more pedagogically sound online educational programs. This division is responsible to ensuring the effective management and support of the Course Management System, and the many

other software elements used by faculty to deliver lectures and lesson material online (Staples, M., 2008).

Summary and Contributions

Many studies have been conducted that seek to determine the best practices in the development of an online teaching program. This literature review demonstrates that university systems big and small, healthcare, liberal arts, or specialized, all have similar issues to deal with when it comes to the planning, development, and assessment of online teaching programs. Approaches differ based on the administration and the political climate of each university, but all seek to provide the most proficient and cost effective methods. Some begin the approach with misnomers of using online teaching to increase the number of students without increasing faculty and staff support. In most cases they quickly realize that online teaching for the most part provides university expansion without the need for added material buildings and parking spaces, but faculty and staff increases are inevitable.

It is anticipated that the contribution to the field of knowledge about effective infrastructure support would be a better focus on what is needed to resolve some of the most common issues in support for online education. The Matrix developed by this process can be followed or modified to meet the needs of university systems that may differ in size or objective to make it effective for everyone. Too often, the best answers to problems come from those who are in the trenches attempting to get the job done, but far less often are their opinions solicited in a way that can produce honest feedback. It is hoped that the investigation helps to bridge the gap between what is perceived to be the problem by administration and what faculty perceive to be the real issues.

Administration officials at MCG have commissioned similar studies to get a better understanding of how current policies and procedures affect faculty, staff, and students. The results build upon the knowledge needed by administrators to make better informed decisions. The validated Matrix along with other information collected from this survey will be sent for publication in relevant higher education journals.

Chapter 3

Methodology

The goal was to implement effective administrative support for online teaching faculty by establishing procedures and processes specified within the Matrix. The case study used qualitative and quantitative research methods. This chapter describes the procedures that were used: research methods to be employed, design and implementation, evaluation, resource requirements, reliability and validity.

According to Leedy and Ormrod (2005) the case study approach is the best approach to use as a means to gather qualitative data through surveys that allow more in-depth study of a given issue and provide a better understanding of the causes and effects of a given phenomenon. A case study was used to learn what specific administrative support services are already being provided and whether faculty feel that these services are adequate or need improvement. Surveys may be used to provide valuable information concerning the current and future needs of online teaching faculty, and can be used repeatedly to show trends, update procedures, or revise policies as needed.

The investigation focused on identifying gaps in administrative support and training for online educators. The needs of online educators are still being discovered as institutions delve into the dynamic arena of online education. More attention should be given to the needs of faculty who teach online and to the infrastructure that supports them.

Research Methods Employed

A descriptive survey was developed that identifies specific elements outlined in the Matrix (Appendix A) to be evaluated for their perceived importance by online teaching faculty. This survey also included questions asking faculty to validate the content of the Matrix as part of the case study to determine what administrative support elements faculty value and consider important to the success of an online teaching program.

The survey used close-ended questions with five-point Likert-scale responses (Appendix A). The Likert-scale is frequently used in surveys to measure the attitudinal scale of the intended audience (Gliem & Gliem, 2003). The questions were developed to collect data on the perceptions of online teaching faculty along with demographic information. A few open-ended questions were included to allow faculty the opportunity to make additional comments.

The sample size was the total population of full-time online teaching faculty at MCG, which is 100 faculty. At MCG the support needs for both full-time and part-time faculty are substantially the same. Part-time faculty have a larger clinical responsibility, so they may only teach one or two classes as compared to the full-time faculty. The survey did not ask faculty to identify themselves as either part-time or full-time because the part-time presence for online teaching is less than 5%. The focus of the survey was on those who taught online, hybrid, or some combination of face-to-face and online. The survey is designed to help the investigator eliminate all responding faculty who do not have experience teaching online courses. The very nature of a volunteer survey indicates that the data analysis may be skewed by not including the faculty who do not volunteer to complete the survey. This sampling error, of course, is unavoidable without the ability to force

participation. The total volunteer population of online teaching faculty, though skewed in some aspects, is the best method for "purposeful" sampling in order to gather information from faculty who are most knowledgeable about the topic (Fowler, 2002; Leedy & Ormrod, 2005).

The responses were collected and evaluated using the statistical analysis software SPSS to ascertain whether there is a significant difference with the two questions and compare the importance of a support function with whether that function is adequately provided by the institution. The part *a* question was compared with the part *b* question using a paired sample t-test to ascertain whether there was a statistically significant difference between the two questions. A statistically significant difference means that either the support function was important to faculty, but was not adequately supported, or that the support function was not that important to faculty, but was well supported. The descriptive statistics help identify which is the case for each set of questions.

Descriptive statistics were also used on the remaining questions to report the means, medians, and modes of the data. The data were also used to produce a report on the specific needs of online teaching faculty and whether or how these needs are being met at MCG. The investigation and survey produced a tested and proven Matrix and tool for evaluating support needs of online teaching faculty at other institutions, and showed a detailed analysis of the perceived support needs of the faculty at MCG. This detailed analysis delineates valuable information for administrators and decision makers at MCG to assist them in making future decisions on where and how to allocate resources.

A full report of the collected data and analysis was made available to the Provost, the Vice President for Information Technology, the Vice President Instruction and Academic Affairs and to the Deans of each school at MCG. Segments of the report that pertain specifically to the infrastructure and foundation support of the institution were made available to the Director of Infrastructure Services. Segments of the report which specifically address instructional design, course development, and training for online instruction were made available to the Director of Research and Instructional Technology Support. Items in the report dealing with other support issues such as classroom technology support, faculty workstation support, and help desk support were made available to the Director of Support Services.

Survey

The survey was developed using a variety of surveys found in literature as models (Allen, et al., 2007; Escoffery et al., 2005; McLean, 2006; Paolucci & Gambescia, 2007; Restauri, 2004; Ryan et al., 2005). The survey was designed to take approximately 20 to 30 minutes to complete and consists of 85 multiple-choice questions with a few optional fill in questions allowing faculty to add comments. The first five questions gather demographic information about the faculty member. Next there are nine questions that address specific views of teaching an online course. The Matrix is then presented and faculty are asked three questions that inquire about their view on the overall accuracy of the Matrix. Two of these questions ask faculty to comment on any items they would add to or delete from the Matrix as shown. Following this there are 28 multipart questions and two single questions that ask faculty to provide feedback about the importance of each item outlined in the Matrix. The 28 multipart questions are designed to gather data on support functions and

how important each function is to online teaching faculty, then compare that to the data on how well the particular institution provides that support function. Two single questions are included that ask faculty about their own activities in online programs. Four multipart questions follow that ask specific questions about infrastructure support for online students. In order to gather accurate data concerning incentives and disincentives, the final two questions ask faculty to rate a list of incentives or disincentives from most desirable to least desirable. The opportunity is provided to allow faculty to add an incentive or disincentive that may not be listed (Fowler, 2002; Leedy & Ormrod, 2005).

The survey was piloted to a group of five online teaching faculty who provided feedback as to the flow of the survey and the time it took to complete it. Completion times ranged from 15 to 30 minutes. Other feedback was evaluated for incorporation into the survey, and modifications were made based on faculty suggestions.

The Matrix shown in Table 1 was modeled after Rayn, et al., (2005). The major difference is the focus on the infrastructure support needs in the development of online teaching programs vs. Ryan, et al.'s focus on curriculum development. The descriptions and explanations provided in Table 2 review the relevant literature relating to each aspect of the Matrix.

Personal experience, and multiple needs and strategies indicated in the literature were used to design the Matrix. It is divided into three *Supportive Infrastructure Stages* to clarify at what stage each particular element should be considered important in the planning process. These include the initial or *Foundation* stage, the *Development* stage, and the *Maintenance* or continuance stage.

The *Foundation stage*, defines the infrastructure and procedural groundwork that should be in place before beginning an online teaching program. The *Development stage* outlines important elements that should be implemented during the development of an online program, and the *Maintenance stage* identifies processes and housekeeping elements that should be implemented to encourage a progressive online teaching program.

Table 1

Online Teaching Infrastructure Matrix

Supportive Infrastructure Implementation Stage		
Foundation	Development	Maintenance
1. Administration in tune with faculty needs	1. Online Program Policies	1. Continuously evaluate new online technology
2. IT department with customer oriented support role	2. Staff Development Program	2. Update technology only when value added
3. Effective and well supported campus network	3. Faculty Incentives	3. Periodically assess and update quality of course content
4. Effective Server Support	4. Teamwork Approach	4. Set limits on online faculty personal time intrusion
5. Online Student Registration, Billing and Payment System	5. Faculty Development Program	5. Survey faculty semiannually
6. Online Bookstore Services	6. Faculty Mentoring Program	6. Survey students at end of every Semester
7. Online Library Services	7. Course Management System	7. Make changes to programs based on faculty and student input
	8. Lecture capture or course online delivery system	
	9. Online test security	

Table 2

Online Teaching Infrastructure Matrix Description

Foundation Stage: Defines the infrastructure and procedural groundwork that should be in place before beginning an online teaching program

Factor	Description	Source(s)
1. Administration in tune with faculty needs	Far too often administration may take action based on outside recommendations or market influences without first taking time to determine faculty needs and concerns. In an undertaking of this magnitude, it is important that administration develop a teamwork atmosphere with faculty in order to secure buy-in and the full understanding and cooperation of the faculty	McLean, 2006
2. Information Technology (IT) department with a customer oriented support role	In order to create an effective and harmonious work environment for faculty who teach online, technology support personnel must learn to be extremely supportive and responsive to immediate needs of the faculty. Little is more frustrating to faculty who teach online than the breakdown of equipment or slow responsiveness of technical support. These issues need to be addressed at the highest levels to ensure the IT department is ready to support the additional demand that will result from the implementation of an online program	Frith & Kee, 2003 Jennings & Bayless, 2003
3. Effective and well supported campus network 4. Effective Server Support	It should be obvious that online teaching program success is going to rely heavily on the network infrastructure and campus servers to provide the needed connectivity to online students. These functions should be up and running 100% of the time in order to adequately support an online teaching program	Frith & Kee, 2003

5. Online Student Registration, Billing and Payment System 6. Online Bookstore Services 7. Online Library Services	Support and services for students who will enroll online must be in place before an online teaching program can be developed. These services are essential parts of the basic foundation needed to support an online teaching program. If these services are not established well in advance of implementation, online students will have difficulty with registration, counseling advice, purchase of required books, and performing research	Tallen-Runnels et al., 2006

Development Stage: Designed to identify the processes and elements that are essential during the development of an effective online teaching program

Factor	Description	Source(s)
1. Online Program Policies	It is important to establish policies before or very early in the development process so that a guide to follow exists. These policies should address issues such as methods to be used in the development process; how the program will be administered; what groups or individuals will handle various aspects; how training will be conducted; what, if any, faculty incentives will be implemented; what hardware and software will be used and how technology will be configured; how the curriculum will be developed and placed in the online format; and finally, how the program will be funded	Compora, 2003
2. Staff Development Program	Staff and faculty development is essential to the strength and effectiveness of any online program. The expense of proper training pales in comparison to losses of time and energy that result from staff and faculty who lack proper training. Several studies show that it is even better if faculty development classes can be offered online, so faculty can get a better feel for what their students will experience. A healthy online training program must be preceded by a healthy development program for both faculty and staff	McQuiggan, 2007

3. Faculty Incentives	Incentives are often expected or are offered to faculty as an enticement to work in an online program. The reason incentives are often expected or required is that online teaching is more of a strain than normal classroom teaching. Without proper control of time spent online, longer work hours and a higher workload may easily result with an online teaching program. Since students are likely to be studying in the online environment at anytime 24/7, there is often a tendency for students to also want access to the professor 24/7	Dahl, 2003; McKenzie, et al., 2004
4. Teamwork Approach	A well honed *Teamwork Approach* to the online teaching process can often be enough incentive in itself. If faculty and staff feel they are part of an effective well-organized team, they will often find satisfaction in that fact alone	Dahl, 2003; McKenzie, et al., 2004
5. Faculty Development Program	See #2 above	
6. Faculty Mentoring Program	Faculty mentoring has been lauded as one of the more effective methods of helping faculty retain and apply training session information. Training that takes place without mentoring is quickly forgotten and refresher training is required, but training that is followed by a well organized mentoring program has proven very effective in helping faculty remember what was discussed in the classroom. Mentoring can also be a form of encouragement to faculty who might otherwise not implement certain technology at their disposal	Helton & Helton, 2005; Mandernach, Donnelli, Dailey, & Schulte, 2005

7. Course Management System	Selection of the proper *Course Management System* (CMS) is critical to the development of an online teaching program. Some of the more common include WebCT®, Blackboard®, eCollege®, Desire2Learn®, ANGEL®, and Moodle™. Each CMS has unique features that may or may not be useful or user-friendly for a given institution. This is why it is critical to evaluate several systems before launching an online teaching program to ensure your institution is getting a product that will adequately meet the needs of the faculty and the students	Ruiz et al., 2006
8. Lecture capture or course online delivery system	This line of online teaching products includes Tegrity™, Impatica®, Camtasia®, Elluminate®, or Wimba®. The author calls these Course Delivery Systems because each of these products has a unique way of managing multimedia for online delivery of course lectures or lessons either synchronously or asynchronously. Most of these products are software-based and can work with or augment the capabilities of a CMS to provide better student comprehension of online course content. The careful selection of these products is also very important to the overall quality of an online teaching program	Kosak et al., 2004; Ryan, et al., 2005
9. Online test security	Faculty are often, and rightfully, concerned about online test security. How can tests be proctored or students be monitored while taking a test online and at a distance? The answer in many cases is, you can't, but online tests can be designed so that minimal time is given to complete the test in order to restrict a student's ability to find answers they do not already know. Software is available that will restrict a student's ability to exit the testing software until test completion, but at times this can be cumbersome and difficult to use. This issue is an important consideration in the development of an online teaching program and policies should be developed early to prevent future problems	Tallen-Runnels et al., 2006

Maintenance Stage: Designed to keep a well-developed online teaching program going strong, and to map out changes, updates and improvements that may be needed along the way

Factor	Description	Source(s)
1. Continuously evaluate new online technology	This process ensures the online teaching program is managed and supported by the best and most up-to-date technology available	Ryan et al., 2005
2. Update technology only when value added	This is closely related to #1 in that decisions to upgrade technology should only be made when it can be proven that there will be value added with the updated technology. Many times technology is updated just because it is the latest and greatest, with no evaluation of the need for the upgrade	Ryan et al., 2005
3. Periodically assess and update quality of course content	This process is much more critical in an online environment than with campus courses because technology and online student demands change much more rapidly. Maintaining accreditation is often another factor that requires constant monitoring and updating of online course materials. Many institutions evaluate their online curricula and update it each semester	Cook & Dupras, 2007; Tallen-Runnels et al., 2006
4. Set limits on online faculty personal time intrusion	This factor is often overlooked by administrators who are not familiar with the stresses and demands of an online teaching program. Without constraints, faculty could very easily become overwhelmed from the 24/7 demands on their time. Policies should be carefully designed to take this factor into account, and build in faculty release time and downtime to recuperate and regenerate. Poor management in this area can result in the loss of valuable faculty members at a very high cost to the institution	McLean, 2006

5. Survey faculty semiannually 6. Survey students at end of every Semester	These factors work closely with item #3 because they are an integral part of the update and upkeep process. It is common practice to provide an exit survey to students at the end of each semester, but faculty surveys are much less common. Faculty also need to have a continuous process where they can voice their opinion on what policies are working well and what may need to be changed. Faculty surveys are a good way for administrators to be proactive and keep abreast of trends and changes that may be needed	Ryan et al., 2005
7. Make changes to programs based on faculty and student input	This is a follow up to items #5 and #6. Surveys are great, but they have little affect if not used to make positive changes to the curriculum, the technology, and the support structure for an online teaching program. Feedback from faculty and students should be carefully evaluated and changes should be made when possible and feasible	Ryan et al., 2005

Procedures

The survey was administered in an online format, using Zoomerang® as the Web delivery system. Zoomerang® also provides preliminary analysis of the results. The contents of the cover letter was placed in the e-mail requesting participation that was sent to MCG online teaching faculty along with the hyperlink to begin the survey.

In an attempt to increase response rate, the researcher sent out a survey reminder two weeks after the initial delivery. Then, again, a third reminder was sent out two weeks after that. Each reminder was sent at two-week intervals over a six week period. Other methods were used such as phone calls to individual faculty to ask them to please complete the survey. Calls were also made to support staff to ensure all the correct email addresses had been obtained (Leedy and Ormrod, 2005).

Reliability and Validity

The panel of experts served as the initial method for testing the reliability and validity of the survey. As outlined by Leedy and Ormrod (2005), when a survey is found to measure what it is intended to measure it can be considered valid. The panel of experts through consistency of comments and agreement of suggestions effectively performed the validation process for the survey. The reliability of a survey is effectively shown when two or more survey evaluators consistently agree on the effectiveness of the survey. The review and feedback provided by the dissertation committee members also contributes to the reliability and validity of the survey and Matrix.

The release of the survey to the online teaching faculty of MCG was the final step in the reliability and validity evaluation process. The questions are designed in such a way as to effectively validate the contents of the Matrix while also testing the perceptions faculty hold of each element in a real world environment.

Validation

The survey was evaluated and validated by a panel of experts composed of a statistician, an instructional designer, a program support specialist, a multimedia support specialist, an academic services professional, an information technology network support professional, and at two faculty online program directors. The survey was given to all members of the expert panel along with a cover letter (Appendix B) explaining the review process. Members were asked to evaluate the survey for consistency of alignment with the Matrix, and to ensure the questions asked appropriately covered the stated research questions. They were also asked to carefully evaluate the Matrix for inclusion of all

elements needed in an online teaching environment. The feedback provided by this panel of experts (Appendix C) was incorporated into the final survey that was sent out to all online teaching faculty at MCG.

The Matrix was evaluated and validated by the same panel of experts who evaluated and edited the survey. The feedback (Appendix C) provided by the panel of experts was incorporated into the final version of the Matrix that was then be sent out as part of the survey to all online teaching faculty at MCG for further validation and comment.

The finalized survey was approved by the Institutional Review Board (IRB) of MCG (Appendix D) and of Nova Southeastern University (NSU) with exempt from full review (Appendix E). The exemption from full review is appropriate for this investigation which did not collect personal data or cause any psychological or physical harm to the research subjects.

With IRB approvals from MCG (Appendix D) and NSU (Appendix E) and the dissertation committee, the survey was sent electronically to 206 full-time faculty at MCG who potentially teach online classes in various schools on the main campus in Augusta, Georgia and at satellite campuses throughout the state of Georgia. The actual number of faculty who teach online is 100, but surveys were sent to all faculty in departments that have online teaching programs in order to reach all possible eligible participants. An effort was made to exclude faculty who do not and have not taught online, but a question in the survey provided a basis for elimination in case non-online teaching faculty complete the survey. Part-time or adjunct faculty were not included in this survey. Five faculty members were chosen at random and were asked to volunteer for an in-person interview in order

provide more complete narrative responses to questions and allow for follow up questions to better understand the reason for the responses. The in-person narrative answers were entered along with all other survey participants. The comment sections already provided in the original survey were used to document answers given. The names of the faculty who complete the survey or were interviewed were not collected, so they will remain anonymous.

Resource Requirements

Much of the survey was conducted electronically, thus requiring the use of computer systems, network infrastructure, and appropriate software to create the survey, administer it, collect the data, analyze the data, and report the findings. The use of SPSS data analysis software was necessary to analyze the data, and word processing software was used to report the results.

Summary

The study evaluated the infrastructure support of a specific institution based on the elements outlined in the Matrix. The survey was analyzed and validated by a panel of experts, carefully chosen based on their expertise and experience with online teaching programs. The survey and Matrix were further validated by the faculty who took part in answering the survey.

The survey was created using primarily Likert-scale type questions to ascertain the level of agreement or disagreement with the elements of the Matrix. Both instruments were further validated by online teaching faculty in the way faculty answered the questions in the survey.

The results were provided to the administrative leadership of MCG to aid them in the decision making process for infrastructure support of online teaching faculty. Letters of acknowledgement of receipt of this information are provided in Appendix F. The survey, Matrix and the data collected will be published as a way of disseminating the process that can be used by other institutions with similar needs.

Chapter 4

Results

The purpose of this study was to evaluate the availability and effectiveness of administrative support elements for online teaching faculty. Four main factors were the focus of this study and they include: 1) faculty perceptions of what elements are important to the development of a successful online teaching program; 2) perceptions on which of those elements had been successfully implemented at their specific institution; 3) factors serving to enhance faculty participation in an online teaching program, and which factors impede their involvement; and 4) faculty perceptions of the clarity and expected effectiveness of the Matrix.

The elements outlined in the Matrix were used as the basis for evaluating the infrastructure support of MCG. The goal was to provide a means to better understand what specific administrative support services are already being provided and whether faculty feel that these services are adequate or need improvement. The investigation concentrated on identifying gaps in administrative support and training for online educators.

Data Analysis

Survey Return Results

MCG employs approximately 783 full and part time faculty, with an added 1,318 volunteer or adjunct faculty. The 206 full-time faculty selected to take this survey were carefully selected because of their affiliation with schools and departments that had online

teaching programs in place. This selection did not in any way guarantee that all 206 of the faculty selected would have any online teaching experience or assignment. The total number of faculty who teach online is 100, but in order to ensure maximum possible coverage 206 surveys were sent out just to make sure no one was left out. A database was compiled with 206 email addresses which were obtained from the MCG campus email directory. The email address database was imported into the online survey application, Zoomerang™, which was then used to create the survey and send it out to each email address in the database. The responses were supplied by Zoomerang™ anonymously. Zoomerang™ provides information on the number of individuals who visited the survey Web site along with details of how many people completed or partially completed the survey.

Participants were asked if they had any experience teaching online, and if not to please ignore the request to complete the survey. Questions 4 and 5 of the survey were designed to determine whether the participant had any online teaching experience. Five individuals, who indicated that they have not taught any online classes, completed the survey anyway. These individuals were eliminated from the final results creating a final number of qualified respondents of 46. Since the email text was designed to discourage participation from faculty who had no online teaching experience, it is impossible to know the number of faculty who did not respond for this reason.

Two weeks from the initial transmission of the email survey request a reminder email was sent out through Zoomerang™ anonymously to those addresses in the database of individuals who had not yet responded. After waiting another two weeks, a third and final, email was sent out. Three individuals experienced problems accessing the database

from very old computers. These individuals were given an MS Word survey to complete and the responses were entered manually and anonymously.

Of the 206 survey invitations sent only 51 surveys were completed. This results in a 51% response rate which is based on the 100 full-time online teaching faculty. However, five respondents were eliminated because they had no online teaching experience, bringing the total number of qualified responses to 46. This created a qualified response rate of 46%. Part-time or adjunct faculty were not included in this survey.

Demographics and Background of Participants

The majority of the respondents (35 or 76%) were female which is in line with the majority of the faculty population in the departments identified as having online programs at MCG. The ratio of female to male faculty in those departments is 2 to 1. Twenty-four percent (11) of respondents were male.

The majority of respondents were between the ages of 41 and 55 as indicated in Table 3 below. A notable number (20%) were in the 56 to 65 age group. There were no respondents in the 20 to 25 age group and no respondents in the over 66 age group.

Table 3

Age Groups (n=46)

Age	Number	Percentage
20-25	0	0
26-30	0	0
31-35	1	2

36-40	4	9
41-45	9	19
46-50	10	21
51-55	13	29
56-60	4	9
61-65	5	11
66-70	0	0
Over 70	0	0

Table 4 provides a breakdown of the total teaching experience indicated by respondents. Teaching experience ranged from 1 year to 38 years, with a median of 12 years of teaching experience.

Table 4

Years of Teaching Experience (n=46)

Min	Max	Median	Mode	Mean	SD
1	38	12	8	13.21	8.04

Sub-groupings

Years	Number	Percentage
0-5	7	15
6-10	14	31
11-15	13	29
16-20	5	11
21-25	3	6

26-30	3	6
31-35	0	0
36-40	1	2

Table 5 shows a breakdown of online teaching experience. Respondents indicated a minimum of 6 months online teaching experience and a maximum of 15 years. With a median of 5.25 and a mode of 5, the data suggest that most respondents had approximately 5 years of online teaching experience.

Table 5

Years of Online Teaching Experience (n=46)

Min	Max	Median	Mode	Mean	SD
0.5	15	5.25	5	5.94	3.48

Sub-groupings

Years	Number	Percentage
0-5	29	63
6-10	16	35
11-15	1	2

Table 6 shows that a majority of respondents teach both hybrid and online classes. Four individuals indicated that they currently teach face-to-face only classes, but these individuals were not eliminated from the report because they also indicated in the previous

question that they had several years of online teaching experience. When their online teaching assignment began and ended is unknown. Their indication that they have online teaching experience qualifies them to remain in this data set. Only one respondent indicated they teach online only, and twelve respondents indicated that they teach hybrid only classes.

Table 6

Current Teaching Assignment (n=46)

I teach campus (face-to-face) classes ONLY	4	9%
I teach online-only classes	1	2%
I teach hybrid-only classes	12	26%
I teach both hybrid and online-only classes	30	64%

Online Teaching Experiences

The data outlined in Table 8 display the differences faculty experienced between the campus teaching environment and the online teaching environment. Each response dealt with a specific issue that reflects some of the difficulties experienced by faculty when transitioning from a purely campus teaching environment to an online teaching environment.

Responses to the questions indicated in Table 7 showed a general agreement with each statement. Question 2 had the strongest agreement, with a mean of 3.9, that test security is more of a problem because it is more difficult to monitor exams for online students. One exception to the overall agreement was question 3. Respondents mostly did

not have a strong opinion or slightly disagreed with the notion that online technology frequently interferes with online teaching.

Table 7

Some Differences Between the Campus and Online Environments (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
1	More difficult to communicate with online students	5	10	6	20	4	1	4	3.2	1.2
2	Test security is more of a problem because it is more difficult to monitor exams for online students	1	5	1	22	11	6	4	3.9	1
3	Online technology frequently interferes with online teaching	2	10	15	16	1	2	4	3	0.93
4	Teaching online requires more effort and a higher energy level than classroom teaching	0	12	3	15	14	2	4	3.7	1.19
5	The workload is significantly higher when teaching online	0	6	7	15	14	2	4	3.8	1
6	I miss the face-to-face contact I once had with my students	2	7	10	13	11	3	4	3.5	1.18
7	I was able to find new ways to help students collaborate virtually so that online students could feel closer to their classmates	2	5	11	18	4	3	4	3.4	3.45
8	I feel my role changing from authority figure to facilitator	1	9	9	17	7	3	4	3.4	1

Data Associated with the Foundation Stage of Matrix

In all the questions pertaining to the areas outlined the Matrix there was a built-in comparison between question *a* and question *b* to each numeric question. Question *a* dealt with asking faculty how important a particular topic, process, or support mechanism was in helping them teach online. Question *b* asked faculty to assess how well their specific institution complied with or met the need indicated in question *a*. The questions were designed to first get an indication of how important faculty deemed a particular topic, process, or support mechanism was in the overall online teaching environment, then in the second question faculty were asked to assess the support level they felt they had received from school administration or support areas for that particular topic, process, or mechanism.

The data shown in the tables below provide a detailed comparison of how question *a* and question *b* were answered by faculty who responded to each set of questions. A paired sample t-test was run for each pair of questions to determine whether there was a significant difference in the level of agreement or disagreement with the statements in each set of questions. A statistically significant difference means that either the support function was important to faculty, but was not adequately supported, or that the support function was not that important to faculty, but was well supported. Using an *alpha* value of .025 and a critical *t* value of 2.021, all computed *t* values shown in the tables that are higher than 2.021 indicate a significant difference in responses between the two questions. Whether that difference is positive or negative is indicated by the mean and the mode provided for each question. If the mean and mode in question *b* is lower than the mean and mode for question *a*, the indication is a negative comparison for question *b* with question *a*. This

would indicate the statement in question *a* is important to faculty, but as indicated by the lower mean and mode of question *b*, the function is not adequately provided by the institution.

Data displayed in Tables 8 and 9 are related to the Foundation Stage of the Matrix. In addition to helping to validate the outline shown in the Matrix, the responses provide an indication of how important each statement is in the minds of online teaching faculty at MCG. Data provided by respondents and shown in the tables below indicate that for the most part the needs of online teaching faculty at MCG are not being met by school administration or by current support endeavors. Some indicators show a higher level of dissatisfaction than others, but overall the dissatisfaction with current levels of online teaching support is consistent. Without the basic technological necessities in place, implementation of an online training program will not have the basic infrastructure needed to ensure a successful program that will adequately support online faculty and students.

The highest statistically significant difference in the data shown in Table 8 comes from question numbers *1a* and *1b* indicating that more faculty agreed with question *1a* but in *1b* the responses significantly shifted to the neutral/negative side of the spectrum.

Table 8

Data Associated with the Foundation Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
1a	In order to have a solid foundation on which to build an effective online teaching program, Administration must be in tune with the needs of the faculty	0	0	0	9	37	0	5	4.8	0.72
1b	Administration is in tune with faculty needs at my institution	1	8	12	24	1	0	4	3.4	1.08
	Paired Samples t test = 6.684									
2a	In order to begin the establishment of good online program, the IT department must provide reliable support	0	0	0	6	40	0	5	4.8	0.70
2b	IT provides reliable support at my institution	3	6	11	19	7	0	4	3.6	1.26
	Paired Samples t test = 5.670									
3a	In order to support an effective online program, the institution must have an effective, well-supported network infrastructure with up to date hardware and software	0	0	0	10	36	0	5	4.74	0.73
3b	My institution has an effective, well-supported network infrastructure	1	5	12	24	4	0	4	3.74	1.05
	Paired Samples t test = 5.334									
4a	Maintaining up to date servers and server support is an important foundation to the ability to teach online	0	0	0	8	38	0	5	4.70	0.74
4b	My institution maintains up-to-date servers and good server support	0	5	12	18	11	0	4	3.89	1.00

Paired Samples t test = 4.453

In dealing with the fundamental needs of a truly effective and efficient online teaching program, the indicators shown in Table 9 suggest that, in the opinion of faculty, MCG is not adequately addressing some of the fundamental structural needs upon which to build a reliable online teaching system. Most answers indicate only a slight dissatisfaction with current levels of administrative support. Having administrators be in tune with the needs of the faculty was deemed very important by all faculty, but the data indicate some disagreement over whether this is the climate at MCG.

Infrastructure support from IT was identified as very important by all respondents, but in the opinion of a majority of the online teaching faculty an adequate level of support had not been achieved at MCG. Each of the questions asked in this section was identified by online teaching faculty and other professional as critical to the establishment of a sound foundation upon which to build an online training program. The highest statistically significant difference indicated in Table 9 concerns question *5a* and *b*, which asks about the importance of and the support of online student billing, registration, and payment system. There was a significant shift to the neutral/negative end of the spectrum, indicating that more faculty agree with the first statement than with the latter.

Table 9

Data Associated with the Foundation Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
5a	Establishing an online student Registration, Billing, and Payment system is an important foundation in the development of an online teaching program	0	0	1	17	28	0	5	4.57	0.54
5b	My institution provides an adequate online student Registration, Billing, and Payment system	1	8	8	17	9	3	4	3.70	1.13
	Paired Samples t test = 4.583									
6a	Establishing an online bookstore service is an important part of the foundation for an online teaching program	0	1	9	18	16	1	4	4.16	0.81
6b	My institution provides an adequate online bookstore	5	7	19	10	1	4	3	3.16	1.27
	Paired Samples t test = 4.431									
7a	Establishing online library services is an important part of the foundation for an online teaching program	0	0	1	11	34	0	5	4.71	0.50
7b	My institution provides adequate online library services	1	1	8	17	19	0	4	4.18	0.94
	Paired Samples t test = 3.552									

Data Associated with the Development Stage of Matrix

The data shown in all tables in this section provide a deeper insight into how important faculty believe the fundamental aspects of the Development Stage of the Matrix

are in ensuring that critical factors are not overlooked in the development of an online teaching program.

Data shown in Tables 10, 11, 12, and 14 are directly linked to the Development Stage of the Matrix and provide an indication of how important each statement is, and how well each particular need is being met. In the development stage the groundwork is laid out, and the process of creating the procedures, policies, and training is identified and implemented. Clear policies, staff and faculty development were identified in Table 9 as being very important by a majority of faculty, but the data indicate that these factors have not quite been met by MCG.

Faculty development from question 10 showed the highest level of statistically significant difference in Table 10, indicating that more faculty agree that staff development is important than agree that MCG has a good faculty development program.

Table 10

Data Associated with the Development Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
8a	Clear policies are important to the development of an online program	0	0	4	11	29	0	5	4.55	0.67
8b	My institution has clear policies that describe and guide our online program	3	8	18	11	4	1	3	3.19	0.99
	Paired Samples t test = 7.418									
9a	Staff development (e.g. training) is an important part of the process of implementing an online program	0	0	1	8	36	0	5	4.77	0.48

9b	My institution has a good staff development program	2	3	11	20	8	1	4	3.72	1.03
	Paired Samples t test = 5.948									
10a	Faculty development (e.g. training) is an important part of the process of implementing an online program	0	0	0	8	38	0	5	4.77	0.42
10b	My institution has a good faculty development program	2	7	11	18	7	0	4	3.55	1.06
	Paired Samples t test = 7.570									

Faculty believe that peer mentoring shown in question 11 is a very important factor in the strengthening of an online teaching environment. This question in fact had the highest level of statistically significant difference in Table 11, indicating that faculty would like to see more peer mentoring provided at MCG.

Training and assistance in the conversion of campus lectures into a suitable online format, or assistance in understanding the special needs of online students were some of the issues faculty felt were critical to the development of online teaching programs, but were not adequately established at MCG as shown in Table 11. Training in the use of electronic media for testing and evaluation was identified by faculty as very important, but again, faculty did not believe this function was adequately supported at MCG.

Table 11

Data Associated with the Development Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
11a	Faculty or peer mentoring is essential to further the development of faculty in an online teaching environment	0	0	3	16	27	0	5	4.45	0.62
11b	My institution provides a good faculty mentoring program	3	16	13	10	4	0	3	2.89	1.12
	Paired Samples t test = 7.887									
12a	Providing training and assistance in how to convert a traditional class to an online format is essential to the development of an online program	0	0	0	13	33	0	5	4.70	0.46
12b	My institution provides effective training and assistance to me	5	7	14	15	4	1	3	3.25	1.12
	Paired Samples t test = 7.214									
13a	Providing assistance and training on how to meet the needs of an online non-traditional student is essential in the development of an online training program	0	0	2	16	27	1	5	4.53	0.59
13b	My institution effectively provides this training and assistance to me	8	7	14	14	1	1	3	2.95	1.19
	Paired Samples t test = 7.685									
14a	Providing assistance and training in how to use electronic media to create and grade online assignments is essential to the development of an online training program	0	0	1	14	30	1	5	4.66	0.52
14b	My institution effectively provides this training and assistance to me	4	6	14	17	4	1	3	3.27	1.12

Paired Samples t test = 7.290

The provision of training in order to gain a basic understanding and comfort with technology was identified in Table 12 by all faculty as being essential to the development of an online training process. Faculty felt that Instructional Designer support, incentives to teach online, and a teamwork approach to the online teaching process were also essential elements that have not been adequately addressed by MCG. The highest statistically significant difference indicated in Table 12 is in question *18a* and *b* indicating that faculty would like to see better incentives for online teaching.

Table 12

Data Associated with the Development Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
15a	Ensuring that faculty are properly trained and comfortable with a variety of basic technologies needed to develop and deliver online training is essential in the development of an online training program	0	0	0	12	34	0	5	4.73	0.45
15b	My institution effectively provides this training and assistance to me	3	4	14	22	3	0	4	3.39	0.99
	Paired Samples t test = 7.945									
17a	Providing Instructional Designer support for faculty is an important part of developing an effective online teaching program	0	0	2	11	33	0	5	4.61	0.57
17b	My institution provides good Instructional Designers to help me develop my online course	0	7	10	18	11	0	4	3.73	0.94

	Paired Samples t test = 5.919								
18a	Providing attractive faculty incentives is a vital part of the development of an effective online teaching program	0	2	6	15	23	0	4.5	4.30	0.85
18b	My institution provides attractive faculty incentives to faculty who teach online	20	13	10	3	0	0	2	2.00	0.96
	Paired Samples t test = 11.367								
19a	Teamwork is essential to the development of an effective online teaching program	0	1	3	20	22	0	4	4.41	0.72
19b	My institution employs an effective teamwork approach	2	10	19	14	1	0	3	3.09	0.88
	Paired Samples t test = 8.689								

Question number 16 is not shown in Table 12 but is shown instead in Table 13 because it was an open ended question that asked faculty to describe what difficulties they experience (if any) in designing and developing their own online content. The responses varied widely, but some common issues surfaced more frequently than others. These included lack of IT support, lack of time to take needed training, lack of time to develop online courses and frequent malfunctions of online teaching tools. Unlike other questions that were intended to gather data directly correlated with the Matrix, question 16 was intended to get a snapshot of the most frequent difficulties currently experienced by faculty who teach online at MCG.

Table 13

Difficulties Experienced in Designing and Developing Online Content

It takes a lot of time to convert content to online format, update lectures, and provide handouts and additional reading within the course.
I have had few difficulties other than trying to understand section vs. template in Vista.
Can't attend courses when available. Allocation of time in teaching assignments for on-line development does not match what is required to develop a course
Learning new online software
Faculty workload prohibits faculty from having the adequate time to devote to course development.
I am on a distant campus and we don't have any local support.
Having the software that lends itself well to implementation is sometimes a problem. Would like an easy way to learn the better designs for course development.
Adequate web development time isn't available within the workday, and extensive after hours time is required.
Lack of creativity. I don't know enough to ask the right questions and I don't have time to figure out how to use the "stuff" properly.
I am not knowledgeable of development or design--- this is where the greatest need is, in my opinion. This is limited at MCG unfortunately.
I do not think VISTA is user friendly
Software incompatibilities with IE browser
I don't like the Vista system, more cumbersome than webct, don't see any advantages at my end, but it may make the IT folks just happy as hell. Would prefer a system that allows synchronous presentation/response.
Classroom Services provided faulty distance equipment and the institution did not make them accountable with adverse learning implications as a result.
Long waiting time for content to be uploaded, lack of the possibility to use "back" option in VISTA and frequent necessity to go out of VISTA and go back to make something work.
Failure of the technology to perform as advertised.
Time to learn how to do this and to do this before you forget the skills you learned!
No training yet

Lack of time.
No additional time to attend training
Off-campus faculty are not trained or supported.
Account access to Vista took 6 months.
Systems for housing the lectures seem to change from year to year. Vista clones a course but then you may not be able to add tests to the course (known error for couple months now with no solution pending)
No guidance in how to do this. I just took my on-campus courses and modified these to online learning.

An effective course management system (CMS) was identified in Table 14 as being an essential part of an online teaching program, but faculty at MCG expressed some dissatisfaction over the quality of the CMS provided. Question 21a and b in Table 14 was the only question in the survey where a significant difference was not indicated. The question asks whether *a helpful Course or Lesson Delivery System (e. g. Tegrity, Apreso, Camtasia, Impatica) is essential to the effective development of an online teaching program.* Then question *21b* states *my institution employs effective Course or Lesson Delivery Systems.* The responses indicate that there is a significant level of agreement to both questions. With a mean of 4.55 for question *21a*, and a mean of 4.27 for question *21b*, there is a slight decrease in agreement from question *21b* with question *21a*, but the difference is not statistically significant. This indicates that faculty feel the Course or Lesson Delivery Systems described are both highly important to an online teaching program and that they are effectively provided by MCG. Most faculty indicated that test security issues were an important element of online course development, but MCG had not yet provided an acceptable solution.

Table 14

Data Associated with the Development Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
20a	An effective Course Management System such as WebCT, Blackboard, or ANGEL is an essential part of an online teaching program	0	0	1	10	33	0	5	4.74	0.44
20b	My institution employs an effective course management system	2	5	7	15	16	0	4	3.86	1.10
	Paired Samples t test = 5.635									
21a	A helpful Course or Lesson Delivery System (e. g. Tegrity, Apreso, Camtasia, Impatica) is essential to the effective development of an online teaching program	0	1	3	10	30	1	5	4.55	0.76
21b	My institution employs effective Course or Lesson Delivery Systems	0	1	6	17	21	0	4	4.27	0.78
	Paired Samples t test = 1.859									
22a	Online test security is essential to the development and strength of an online teaching program	0	1	3	9	31	0	5	4.58	0.73
22b	My institution has a good online test security process	3	10	13	15	2	2	3	3.26	1.23
	Paired Samples t test = 5.891									

Data Associated with the Maintenance Stage of Matrix

Data collected from responses faculty provided concerning the Maintenance Stage as outlined in the Matrix are intended to provide insight into the importance of, and the perceived effectiveness of MCG's administrative support in this area. The maintenance

stage is designed to identify crucial elements needed to maintain a healthy online teaching program once it has passed the development stage and has been successfully implemented. Tables 15 and 16 provide an outline of the responses to the indicated questions along with the statistical data needed for evaluation of the responses.

Data identified in Table 15 addresses faculty opinion on the need for continuous research and evaluation of new technology, updating technology only when there is value added, periodically assessing the quality of online course content, and the need to limit the inevitable intrusion of online teaching into faculty's personal time. Most faculty agree that each of these elements is important to the continued maintenance of a healthy online training program, however the data also indicated that these elements have not been properly addressed by MCG administration. Question number *26a* and *b* show the highest level statistical significant difference between the importance of not intruding on personal faculty time, and the indication that MCG needs to make more of an effort in this area.

Table 15

Data Associated with the Maintenance Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
23a	The continuous search and evaluation of new online technology is essential to the continued upkeep of an online program	0	0	3	11	31	0	5	4.59	0.62
23b	My institution has a good process to search for new online technology	2	2	19	16	4	2	3	3.52	1.04
	Paired Samples t test = 6.942									

24a	Updating technology only when there is value added rather than just because the technology is new is a valuable policy in the maintenance of online teaching programs	1	0	2	12	30	0	5	4.50	0.79
24b	My institution has a good policy of updating technology only when there is value added	2	8	17	12	4	2	3	3.36	0.99
	Paired Samples t test = 6.537									
25a	It is very important to periodically assess and update the quality of online course content	0	0	0	10	34	0	5	4.72	0.45
25b	My institution has a good policy of periodically assessing and updating the quality of online course content	3	9	19	10	2	1	3	3.07	0.98
	Paired Samples t test = 9.396									
26a	Because online teaching can easily become a 24/7 process, it is very important to establish limitations on the intrusion into personal time for faculty who teach online	0	0	3	10	32	0	5	4.65	0.61
26b	My institution is considerate of personal faculty time and makes an effort to curtail the intrusion into personal time for online teaching faculty	8	12	16	4	3	1	3	2.74	1.21
	Paired Samples t test = 9.576									

Table 16 provides data on the importance of surveying faculty and students at specific intervals to assess the programs and processes in place. It also indicates the importance of ensuring that surveys are not just conducted, but are used to make effective and positive improvements. The data indicated that while faculty believe each of these indicators are important, there was less agreement among faculty at MCG that these

processes had been implemented. The largest statistically significant difference detected with the data shown in Table 16 was from questions *27a* and *b*. Faculty indicate that while having a routine survey of faculty is important, MCG has failed to implement any such reoccurring surveys.

Table 16

Data Associated with the Maintenance Stage of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
27a	It is important to survey faculty semiannually so administration can stay abreast of current needs and trends	0	2	3	15	25	0	5	4.43	0.72
27b	My institution surveys faculty semiannually to stay abreast with current needs and trends	10	17	13	4	0	1	2	2.43	0.95
	Paired Samples t test = 11.231									
28a	Students should be surveyed at the end of each semester so administration and faculty can stay abreast of current student needs and trends	0	1	1	13	30	0	5	4.60	0.66
28b	My institution surveys students at the end of each semester to stay abreast of current needs and trends of students	1	4	7	18	13	1	4	3.84	1.02
	Paired Samples t test = 5.178									
29a	Online programs should be updated and modified regularly in response to appropriate feedback from surveys	0	0	0	15	30	0	5	4.64	0.48
29b	My institution is quick to make effective modifications in response to feedback from surveys when	4	6	16	15	3	1	3	3.34	1.07

appropriate
Paired Samples t test = 6.776

Skills faculty were lacking when developing an online course

Question 30, shown in Table 17, was an open question that asked faculty to describe any skills they may have been lacking when developing an online course. Most of the answers emphasize inadequate training, and most of the issues centered on the use of WebCT Vista. Other issues included lack of release time, the need for individual mentoring, and the lack of readily available technology support or assistance. These issues are applicable to full time faculty and do not include issues that may be experienced by adjunct or part time faculty. Training for adjuncts is provided as part of their indoctrination process.

Table 17

Skills Faculty Found Lacking after Beginning an Online Course

Lacking of skill in use of technology
Better orientation to VISTA software
The learning curve was pretty steep on how to use WebCT.
Troubleshooting skills for the WEB-CT system
Insufficient time to take Vista training; although some training is available, faculty have to have release time from other duties to obtain the training. There is no real support of faculty to do this; faculty workload is obscene.
The basic concepts of the best layout for interactive learning modules.

I was a trailblazer, and the initial focus was on the technical aspects of building web courses with little focus on modifications in traditional instructional methods and how to move them effectively to the online format. I think this has been subsequently rectified.

I'm teaching with another instructor who has taught this course previously. I have learning needs around setting up individual discussion groups, but this was done for me, rather than assisting me to learn the process.

Navigation of platform (WebCT, Vista), support for course design/modification. I learned on Blackboard and had an 8 wk course in how to teach using this platform- it helped tremendously and I felt very comfortable with it. When I came to MCG, I received no orientation to WebCT and it was extremely difficult to learn on my own. It is not user friendly. Conversion to Vista was a little better with some orientation and after 1 yr on Vista I feel pretty comfortable with my skills. More support is needed for course design and using new technology to enhance student learning.

Better knowledge of technology tools

Faculty obtained the needed skills; the institutional support of the distance technology was sub-standard. Equipment and connection issues plagued the program and student outcomes. Lack of institutional administration accountability was an ongoing issue.

Lecture editing

A clear understanding of all options available along with updating of new options as they are developed.

My own lack of knowledge; supporting department staff have less knowledge than I; school staff with knowledge have limited time.

1. Deeper understand of software 2. How to do complex functions

Efficient use of the tools provided

More individual training for new Tegrity system. Learned to use the on-line program myself.

Vista training

Needed examples of how to teach online. I had no guidance in how to do this.

Data concerning institutional support for online students and faculty

While the data shown in Table 18 are not tied directly to any particular area within the design of the Matrix they do show important details that need to be addressed within the overall structure of online course development and delivery. The provision of online advisors and financial aid advice to online students is a very important function along with the provision of a well informed help desk to support online faculty and students. Each of these elements are an integral part of an efficiently functioning online training program. Question number 4 in Table 18 shows the highest level of statistical difference, indicating that most faculty agree that help desk support for online faculty is very important, but responses significantly shift to the neutral/negative side of the spectrum when faculty were asked if online access to help desk support for online teaching was effectively provided.

Table 18

Data concerning institutional support for online students and faculty (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
1a	Providing online access to academic advisors for distant online students is a very important part of an online teaching program	0	0	1	13	30	1	5	4.67	0.51
1b	My institution effectively provides online access to academic advisors to our students	2	5	13	14	8	3	4	3.67	1.05
	Paired Samples t test = 6.191									
2a	Providing online access to financial aid advisors for distant online students is a very important part of an online teaching program	0	0	4	12	26	3	5	4.52	0.65
2b	My institution effectively provides	7	2	17	7	1	11	3	3.46	1.24

	financial aid advisors to our students								
	Paired Samples t test = 5.530								
3a	Providing online access to help desk support for assistance with student technology issues is a very important part of an online teaching program	0	0	1	9	35	0	5	4.73	0.49
3b	My institution effectively provides online access to help desk support to our students	2	5	10	19	6	2	4	3.60	1.05
	Paired Samples t test = 6.668								
4a	Providing online access to help desk support to assist online teaching faculty with technology issues is a very important part of an online teaching program	0	0	1	9	33	0	5	4.73	0.49
4b	My institution effectively provides online access to help desk support to our faculty	1	5	11	21	7	0	4	3.70	0.93
	Paired Samples t test = 6.949								

Validation of Matrix

The validation of the contents of the Matrix is woven throughout the survey. When the Matrix is shown to faculty and they are asked to evaluate it, 85% of the faculty who responded either agree or strongly agree that the Matrix accurately reflects a solid developmental process for an online teaching program. The data shown in Table 19 comes from questions asking faculty to take a close look at the elements and layout of the Matrix, and to indicate their agreement or disagreement with how it was structured. Overall faculty agreed that the Matrix accurately reflects a solid developmental process for an online teaching program. There were also some open ended questions asking faculty to identify

any elements they would remove or add to the Matrix. Only faculty time intrusion was suggested for removal by one respondent. All other faculty indicated that they would not remove any elements.

Suggestions for items to be added to the Matrix included adding ongoing IT support in the maintenance stage and allowing faculty involvement in technology decisions. Other suggestions were made that were too technical or specific in nature to be included as part of the Matrix.

Table 19

Data Concerning Validation of the Matrix (n=46)

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable

		1 SDA	2 D	3 N	4 A	5 SA	N/A N/A	Mode	Mean	SD
1	The matrix accurately reflects a solid developmental process for an online teaching program	0	0	6	31	9	0	4	4.04	0.58

Faculty online teaching incentives and impediments

Table 20 shows responses from faculty to a list of possible incentives to teaching online. Table 22 shows responses from faculty to a list of impediments to teaching online. Faculty were asked to rate each suggestion with the level of significance that incentive had for them. The ratings ranged from least appealing (1), to most appealing (8). Two items from the list emerged as most appealing from the group. These were *Extra pay for teaching online* and *Release time.* Other items on the list were rated from low to mid range, but one was rated by most faculty with the lowest overall rating of 1, and that was a *Challenging work environment*.

Table 20

Incentives that Encourage Greater Faculty Involvement in Online Education

1 = least appealing and 8 = most appealing.

	1	2	3	4	5	6	7	8	Mode
Challenging work environment	42%	18%	5%	11%	11%	8%	5%	0%	1
Extra pay for teaching online	10%	8%	3%	10%	10%	8%	21%	31%	8
Promotion and Tenure consideration	8%	8%	21%	8%	13%	8%	18%	16%	3
Immediate access to technical support	0%	5%	11%	14%	24%	16%	22%	8%	5
Course development support	3%	11%	14%	17%	11%	17%	17%	11%	3
More training opportunities	13%	13%	24%	16%	16%	11%	3%	5%	3
Release time	12%	10%	7%	12%	7%	14%	10%	29%	8
Easy access to technology for course development and online delivery (e. g. hardware, software, laptops, projection equipment)	0%	13%	8%	15%	18%	21%	18%	8%	6

Faculty were asked to add any incentives they felt were important but were not listed in the previous ratings list. The results to this open question are shown in Table 21. The suggested incentives included more pay or release time, lower student to faculty ratio workload consideration for online teaching faculty, and telecommuting time for faculty who teach online. Again at MCG adjunct faculty are unpaid volunteers who receive credit toward their professional certification for their time, so release time for this group is not a significant factor.

Table 21

Other Suggested Incentives that Encourage Greater Faculty Involvement in Online Education

More pay and/or release time
Recognition for especially excellently-designed courses.
Additional faculty for large class numbers.
Workload consideration was never considered for our program and the literature is consistent that workload for distance teaching is more demanding on faculty. This is needed in consideration.
More time allowed for teaching "from home" or outside of campus

In Table 22 a list of possible impediments to teaching online were rated by faculty from weakest to strongest, with the weakest impediments receiving a 1 and the strongest an 11. The top three impediments to teaching online as rated by faculty at MCG were: 1. *No release time,* 2. *Lack of adequate technology (e. g. equipment, software),* and 3. *No, or limited access to technical support.* Other items on the list were rated at various stages on the scale with *Anxiety about learning new technology* and *Lack of interest in using technology to teach* listed among the weakest impediments.

Table 22

Impediments Preventing Faculty from Involvement in Online Education

1 = weakest or least impediment and 11 = strongest impediment

	1	2	3	4	5	6	7	8	9	10	11	Mode
Strenuous work environment	16%	14%	3%	5%	14%	3%	11%	11%	8%	5%	11%	1
Lack of interest in	24%	29%	12%	6%	0%	9%	3%	3%	9%	3%	3%	2

using technology to teach												
No monetary incentive	13%	11%	18%	11%	3%	5%	0%	5%	13%	13%	8%	3
No Promotion or Tenure consideration	13%	3%	18%	8%	5%	8%	3%	5%	15%	8%	15%	3
No, or limited access to technical support	0%	3%	3%	9%	15%	9%	12%	24%	6%	9%	12%	8
No course development support	3%	3%	3%	6%	12%	15%	21%	6%	12%	15%	3%	7
Anxiety about learning new technology	26%	26%	12%	9%	9%	9%	3%	0%	3%	3%	0%	2
No release time	0%	5%	5%	16%	8%	3%	5%	14%	8%	14%	22%	11
Insufficient training	0%	3%	12%	9%	12%	6%	24%	6%	12%	9%	9%	7
Lack of adequate technology (e. g. equipment, software)	0%	0%	9%	12%	9%	9%	9%	12%	12%	16%	9%	10
Technology not appropriate for course material	10%	0%	8%	5%	8%	21%	5%	15%	8%	10%	10%	6

Faculty were asked to add any impediments they felt were important but were not listed in the previous ratings list. The results to this open question are shown in Table 23. The answers were few and varied widely. They included excessive teaching commitments, lack of formal mentoring, slow technology assistance response time, and excessive number of students in an online class.

Table 23

Other Identified Impediments Preventing Faculty from Involvement in Online Education

Too many other non-teaching commitments.
Lack of formal mentoring
Lack of response time to correct technology issues and distance education technicians' (classroom services) inappropriate behavior was not ever managed.
Too many students in an on-line class
I already have spent a great deal of time developing currently used methods for teaching course

The final question was open ended and provided faculty with the opportunity to add any comments. Table 24 shows two comments on issues faculty felt were important.

Table 24

Other comments

Although I teach a hybrid course, I do not feel that it has the challenges of a true online course, since I have over 20 face to face contact hours per week with the same student group.
Administration at MCG is not aware of the teaching-learning demands associated with distance education and therefore the needs and issues were never effectively managed. This lack of attention created less than optimal learning experiences.

Summary

This study identified issues that need to be closely scrutinized and evaluated by institutional administrators to gain better insight into the specific needs of online teaching faculty on the frontlines. The issues identified in the Matrix as being a crucial part of the foundation, development, and ongoing maintenance of an online training program need to be examined and addressed by administration at MCG.

As is consistent with the literature in this area, some of the major issues identified by faculty included the need for formal training and mentoring, the need for better IT support, and the need for release time and more faculty incentives. For any instance with a mean below 3 the indication is more faculty disagree with the statement than agree. At MCG adjunct faculty are unpaid volunteers who receive credit toward their professional certification for their time. Release time is not a significant factor for this group.

Other information gleaned from faculty comments at MCG included the need for a more organized administrative involvement in the online teaching process, and better control of class sizes and course content.

Chapter 5

Conclusions, Implications and Recommendations, and Summary

This chapter is divided into three sections. The first section provides conclusions based on the results of the survey data and how the data answers the research questions identified in chapter one. The second section discusses the implications of the outcome and makes recommendations for administrative changes needed and further studies that would be helpful. The final section summarizes the outcome and the recommendations.

Statement of the Problem

Online teaching needs of faculty often go unmet by the institutional infrastructure because administrators frequently fail to understand how technology is rapidly changing the way instruction must be delivered to meet student demand. Other factors such as instructional design, student admissions, registration, faculty and staff development, and faculty workload are impacted tremendously by the adoption of an online program, yet much of the time these entities are ill-prepared to handle the changes that the online students will bring (McQuiggan, 2007).

Institutional support for online and distance education is subpar in many institutions when it comes to faculty development, faculty incentives, and student assistance. Online education programs are often developed in haste to meet growing

demand, but the infrastructure, policies, and support entities are often not in place to support the demand (Tallen-Runnels et al., 2006).

Goal

The goal was to obtain faculty feedback on how to better implement effective administrative support for online teaching faculty. Data was collected on faculty administrative support needs in order validate the design of a developmental Matrix. The Matrix serves as a procedural tool to help campus administration better evaluate their administrative support and realign resources to effectively provide for the needs of online teaching faculty.

Conclusions

The results build upon published research in the area of faculty support in the online teaching environment. The survey and the Matrix validated by the survey provided the answers to the research questions established. Listed below are the research questions along with the answers to each question derived from survey data.

What do faculty members perceive to be the most significant needs in developing, and supporting the delivery of online education?

Repeatedly, faculty indicated their struggle with available time for online course development. Faculty lack the time to effectively think through the process and develop online content they can take pride in. More often the rush to meet deadlines and get content

up by class start time supersedes the need for more illustrations and time to adequately learn the technologies they will be using in the online environment. Their need for better, more applicable training, and the time to participate in the training was also evident throughout the data. There is evidence that some training is provided, but not always in a timely manner and usually not designed to the specific needs of the faculty.

Many faculty also indicated the need for more responsive technical support to be available when and where it was needed at a moment's notice, especially in the classroom. Issues with the response of technical support abound, but they become more critical at the moment teaching begins. When the instructor begins teaching, or is teaching, and suddenly the sound goes out, or a computer glitch causes the teaching to stop, technical support needs to be readily available to respond to such emergencies to minimize lost instructional time.

Better guidance and better assistance with development and design was also identified as a significant need. Guidance on how to design a new course, or on how to make changes to a campus course to create a more effective online training environment are essential to the new faculty member who may be an expert in his or her respective field, but needs assistance in turning that expertise into knowledge that can be effectively relayed to students. At MCG instructional designers are often tied up in support of online technology, and lack the time to spend assisting with course layout and design.

With regard to supporting the delivery of online education, faculty felt that it is very important for administration to be in tune with the needs of the faculty, and for Information Technology (IT) to provide reliable support. When administrators adequately

understand the needs of online teaching faculty they are better prepared to make good decisions concerning the development of processes to provide better support. Reliable and responsive IT support is crucial to the effective production and delivery of online content.

An effective, well-supported network infrastructure, and well-maintained servers were also identified by faculty as being very important to the support of online education. Online library services were identified as an important part of the foundation needed for online teaching. Students need this online capability to perform research. Staff development was identified as essential to the support of faculty who teach online. Development and training for online teaching support staff is just as essential to the online teaching process as training for faculty.

An effective online Course Management System (CMS) was another factor identified as an essential part of an online teaching program. The CMS is the heart of a well developed online teaching program, and thus needs to be well developed and in order for it to provide the online services essential to faculty and students. The importance of periodically assessing and updating the quality of online course content was identified by faculty as essential to the continuing improvement of an online training program. Periodic course assessment is essential to the continuous improvement process and to meet the expectations of accrediting bodies.

What aspects of the online teaching environment are different from the campus (face-to-face) environment and thus demand different considerations?

Three issues emerged as noteworthy from the data collected. Test security, a significantly higher workload, and a higher effort and energy level requirement on the part of faculty in the online teaching environment surfaced as the major elements that initiate the most concern for faculty who transition from a campus teaching to online.

Test security emerged as the top concern for faculty when transitioning to an online teaching environment because in most cases there is less control over how tests are conducted in an online environment. A significant increase in workload was the second highest issue for faculty in this category because the preparation and management of all the online technological tools can be daunting. The third highest point of concern for faculty was the higher level of effort and energy needed to maintain contact with students and assist with questions and issues in an online environment.

What incentives or rewards do faculty members need to encourage enthusiastic participation in online or hybrid education?

Based on a prioritized list, three incentives emerged above the rest. Extra pay for teaching online was the top incentive chosen by faculty as a way to encourage more faculty to participate in an online teaching environment. Release time was second highest incentive that faculty felt was necessary in order to help give them the time needed to complete training and accomplish other tasks outside the workplace. Easy access to technology for course development and online delivery was the last of the top three

incentives that faculty felt were important in soliciting and maintaining faculty participation in online teaching programs.

Other incentives added by faculty included recognition for a well designed online course, and adding faculty to courses when student numbers increase. Recognition and competition among faculty to develop the best online course design can add camaraderie and prestige among faculty. As online classes grow the faculty workload also increases. Guidelines should be put in place to limit class sizes or add faculty when sizes increase.

How do current institutional policies and processes support faculty who teach online or hybrid education?

While most faculty agreed that clear policies are important to the development of an online program, there was a significant difference in faculty agreement to whether their institution provided such policies in a way that adequately supported the online program. Some faculty did agree that their institution had clear policies that guided the online program, but most faculty were hesitant to agree with this statement.

What existing administrative support programs do faculty find effective in supporting the development and delivery of online or hybrid education?

Faculty responses indicate a shift to the negative end of the spectrum when asked about the effectiveness of administrative support programs in supporting or developing the delivery of online or hybrid education. Some programs identified by faculty as being critical to the development of online programs included reliable IT support, effective network infrastructure, client server support, online student registration, billing and payment system, online library services, staff and faculty development, peer mentoring, Instructional Designer support, an effective Course Management System, effective course and lesson delivery systems, and online test security. Additionally faculty felt it was important to have an online course assessment process, and to provide accommodations for the added workload experienced by faculty who teach online. Faculty indicated the students should also be surveyed frequently to determine how well the instructional material is working for them.

In each of the factors listed above faculty responses indicated a shift to the negative end of the spectrum when asked if they were adequately supported, except for one. The support area where faculty indicated they had received effective support was in the area of course or lesson delivery systems. This included online streaming and multimedia tools such as Tegrity, Apreso, Camtasia, and Impatica. Most of these systems were not supported by IT at the time of this survey, but were rather supported internally by each department or school.

What are the faculty needs with regard to training, mentoring, or assistance in using the technology associated with delivery of online or hybrid education?

Data provided by the survey identified faculty development, peer mentoring, training and assistance in converting campus courses to an online format, training on how to meet the needs of online students, training and assistance to better understand the use of online grading media, training in a variety of technologies, improved instructional designer support, support of faculty who teach from a distant campus, guidance on how to create online content, and online help desk for distant faculty as the top needs of faculty who teach online at MCG.

For each of the listed support needs, the data indicate that there is a significant difference between the importance level faculty placed on each need and the provision of support for that need. Faculty at MCG indicate less agreement when asked about adequate support of faculty who teach online.

Since the Matrix was designed around the literature of best practices for implementation of an online training program, and the survey in turn was designed to ask specific questions about the importance of individual support features listed, the indication by faculty that these features were important, serves as validation of the Matrix and its contents. As indicated by the data collected, faculty generally agree that the Matrix accurately reflects a solid developmental process for an online teaching program.

Implications and Recommendations

The results reported here come exclusively from full-time faculty at MCG. Adjunct faculty are unpaid volunteers who receive credit toward their professional certification for their time. Training for these adjuncts is provided as part of their indoctrination process.

The results indicate that most faculty at MCG have not received adequate training in technology, or in course design techniques to adequately develop courses on their own. Training has occurred, but based on the narrative feedback it has not met the needs of faculty. There is no organized training and mentoring program. These are the first areas that should be addressed when establishing an online teaching program. Without proper training and development for staff and faculty, the frustration level will be extremely high and the attrition rate will likely increase. When faculty and staff are properly trained and mentored in the technology and the processes needed for successful online course development, a synergistic effect can take hold and everyone can work together with a better understanding of the goals and processes and how to achieve them.

Online teaching faculty are also not receiving adequate support in the areas of classroom technology support, online technology support, and release time needed to focus on learning the needed skills. It is recommended that administration focus on organizing the online teaching programs so that faculty can share ideas and knowledge, and so that better emphasis can be placed on the technology needs of online teaching faculty as a whole.

The recommendation is to implement effective administrative support for online teaching faculty by establishing procedures and processes specified within the Matrix. The Matrix was developed from personal experience of the author and the literature outlined in chapter two, and was validated through a survey by faculty at MCG as being a viable outline for the developmental process of online teaching program development.

The data consistently show both from literature and from the survey that the principles outlined in the Matrix are a good solid recommendation or set of guidelines for administration to follow when laying out the groundwork for an online teaching program. The Matrix outlines a model for the development of an online teaching program from its inception through the planning stages and into the maintenance period to keep it updated on a continuous basis.

The Foundation phase of the Matrix ensures that the infrastructure and support functions that are in place are sufficient to support the implementation of an online training program. The Development phase of the Matrix is designed to ensure that all the pieces of the infrastructure critical to the development of an online teaching program are either in place, developed, or current infrastructure elements are realigned or restructured to include support for an online teaching program. The Maintenance phase of the Matrix is a continuous process of development and upkeep to ensure that the online program does not stagnate, suffer outdated technology, or lose touch with the needs of faculty and students.

The Matrix is shown in chapter three Table 1 and again here in Table 26 for ease of reference.

Table 25

Online Teaching Infrastructure Matrix

Supportive Infrastructure Implementation Stage		
Foundation	Development	Maintenance
1. Administration in tune with faculty needs	1. Online Program Policies	1. Continuously evaluate new online technology
2. IT department with customer oriented support role	2. Staff Development Program	2. Update technology only when value added
3. Effective and well supported campus network	3. Faculty Incentives	3. Periodically assess and update quality of course content
4. Effective Server Support	4. Teamwork Approach	4. Set limits on online faculty personal time intrusion
5. Online Student Registration, Billing and Payment System	5. Faculty Development Program	5. Survey faculty semiannually
6. Online Bookstore Services	6. Faculty Mentoring Program	6. Survey students at end of every Semester
7. Online Library Services	7. Course Management System	7. Make changes to programs based on faculty and student input
	8. Lecture capture or course online delivery system	
	9. Online test security	

Recommendation for Additional Studies

It is recommended that further studies be conducted that delve into the functionality, effectiveness, and workflow of infrastructure support for online teaching faculty and programs. Studies that focus on infrastructure support for online students would also help understand how online students are impacted by the infrastructure of a university. Further studies should be conducted with faculty using technology infused classrooms to see how their needs differ from those who teach online. Finally studies of all the above suggested topics should be conducted at both medical and liberal arts institutions to provide a comparison of how infrastructure for faculty and for students differs in reference to the type of system being examined.

Summary

Infrastructure support for online teaching faculty needs to be a well organized effort with a never ending process of improvement. At whatever state the current infrastructure is, there is always room for improvement, but the implementation of an online teaching program requires certain considerations not normally an issue in a campus only type of teaching environment. The Matrix created and tested here outlines the processes and functions needed at each stage of the implementation process in order to establish an online teaching program with the infrastructure needed to adequately support it. The contents of the Matrix are summarized below for a better understanding of how this process can be effectively implemented.

In the Foundation stage of the Matrix there are at least seven elements that need attention before an online teaching program is developed. These elements are outlined below.

- Administration in tune with faculty needs
- IT department with customer oriented support role
- Effective and well-supported campus network
- Effective Server Support
- Online Student Registration, Billing and Payment System
- Online Bookstore Services
- Online Library Services

In an undertaking of this magnitude it is important that administration develop a teamwork atmosphere between administration and faculty in order to secure buy-in and the full understanding and cooperation of the faculty (McLean, 2006). In order to create an effective and harmonious work environment for faculty who teach online, technology support personnel must learn to be extremely supportive and responsive to the immediate needs of the faculty. (Frith & Kee, 2003; Jennings & Bayless, 2003).

An online teaching program is going to rely heavily on the network infrastructure and campus servers to provide the needed connectivity to online students. These functions should enjoy a 100% uptime, or very nearly 100% uptime in order to adequately support an online teaching program (Frith & Kee, 2003). Online student Registration, Billing and

Payment System, Online Bookstore, and Online Library Services are essential parts of the basic foundation needed to support an online teaching program. These online services should be well established in advance of implementation of an online teaching program. (Tallen-Runnels et al., 2006).

In the Development stage of the Matrix there are at least nine elements that need to be included as part of the development process for an online teaching program. These elements are outlined below.

- Online Program Policies
- Staff Development Program
- Faculty Incentives
- Teamwork Approach
- Faculty Development Program
- Faculty Mentoring Program
- Course Management System
- Lecture capture or course online delivery system
- Online test security

It is very important to establish clear online program policies before or very early in the development process so that everyone has a guide to follow. These policies should address issues such as methods to be used in the development process; how the program

will be administered; what groups or individuals will handle various aspects; how training will be conducted; what, if any, faculty incentives will be implemented; what hardware and software will be used and how technology will be configured; how the curriculum will be developed and placed in the online format; and finally, how the program will be funded (Compora, 2003).

Staff and faculty development is essential to the health, wellbeing, and effectiveness of any online program. Several studies show that it is even better if faculty development classes can be offered online, so faculty can get a better feel for what their students will experience. A healthy online training program must be preceded by a healthy development program for both faculty and staff (McQuiggan, 2007).

Faculty Incentives are often expected or offered to faculty as an enticement to work in an online program because online teaching is often much more of a strain than normal classroom teaching. Incentives are helpful, but a well honed Teamwork Approach to the online teaching process can often be enough incentive in itself. Teamwork is vital to the effective implementation of an online training program (Dahl, 2003; McKenzie, Ozkan, & Layton, 2006; Restauri, 2004).

Faculty Mentoring has been lauded as one of the more effective methods of helping faculty remember and put into practice what was learned in training sessions. Training that takes place without mentoring is quickly forgotten and refresher training is required, but training that is followed by a well organized mentoring program has proven very effective in helping faculty remember what was discussed in the classroom. (Helton & Helton, 2005; Mandernach, Donnelli, Dailey, & Schulte, 2005).

Selection of the proper Course Management System (CMS) is critical to the development of an online teaching program. Some of the more common include WebCT, Blackboard, eCollege, Desire2Learn, ANGEL, and Moodle. Each CMS has unique features that may or may not be useful or user friendly for a given institution. This is why it is critical to evaluate several CMS before launching a online teaching program to ensure your institution is getting a product that will adequately meet the needs of the faculty and the students (Ruiz et al., 2006).

A lecture capture or course online delivery system may include Tegrity, Impatica, Camtasia, Elluminate, or Wimba. These products can augment the capabilities of a CMS to provide better student comprehension of online course content. (Kosak et al., 2004; Ryan, Hodson-Carlton, & Ali, 2005). Online test security should also be a consideration in the development stage. How can tests be proctored or students be monitored while taking a test online and at a distance? The answer in many cases is, you can't, but online tests can be designed so that minimal time is given to complete the test in order to restrict a student's ability to find answers they do not already know. There is software available that will restrict a student's ability to exit the testing software until this test is completed, but at times this can be cumbersome and difficult to use. This issue is an important consideration in the development of an online teaching program and policies should be developed early to head off future problems (Tallen-Runnels et al., 2006).

The Maintenance stage of the Matrix is designed to keep a well developed online teaching program going strong, and map out changes, updates and improvements that may be needed along the way. The elements of this stage are outlined below.

- Continuously evaluate new online technology
- Update technology only when value added
- Periodically assess and update quality of course content
- Set limits on online faculty personal time intrusion
- Survey faculty semiannually
- Survey students at end of every Semester

The process of continuously evaluating new online technology is important to ensuring the online teaching program is managed and supported by the best and most up-to-date technology available. Updating technology only when there is value added ensures that decisions to upgrade technology are only made when it can be proven that there will be value added with the updated technology. (Ryan et al., 2005).

Periodically assessing and updating the quality of course content is a process that is much more critical in an online environment than with campus courses because technology and online student demands change much more rapidly. Many institutions evaluate their online curriculum and update it following each semester (Cook & Dupras, 2007; Tallen-Runnels et al., 2006).

Limiting intrusions into faculty personal time is critical to ensuring faculty do not become overwhelmed and burnout from the 24/7 demands on their time. Policies should be carefully designed to take this factor into account, and build in faculty release time. The

result of poor management in this area, can be the loss of valuable faculty members at a very high cost to the institution (McLean, 2006).

Surveying faculty and students at predetermined intervals is essential in maintaining a flow of information between administration, faculty and students. Faculty and student surveys are a good way for administrators to stay ahead of the game and keep abreast of trends and changes that may be needed (Ryan et al., 2005). Along with frequent surveys it is important that administration stay aware of the information provided by the surveys and make changes to programs based on faculty and student input. Surveys are great, but they have little affect if they are not used to make positive changes to the curriculum, the technology, and the support structure for an online teaching program. The feedback from faculty and students should be carefully evaluated and changes should be made when possible and feasible (Ryan et al., 2005).

The research highlighted the processes necessary for effective implementation of an online teaching program. The Matrix provides an outline for administration to follow in the implementation process. The data collected from the survey of faculty at MCG provide invaluable insight into the specific needs of online teaching faculty at MCG, but this survey can also be used at any institution so administrators can gain a better understanding of their faculty needs with regard to online teaching.

Appendix A

Online Teaching Faculty Support Survey

Medical College of Georgia

Online Teaching Faculty Support Survey

My name is John Meyer, and in cooperation with MCG administrators I am conducting a study of the infrastructure and administrative support needs of online teaching faculty for my doctoral dissertation.

This brief 20 to 30 minute survey will gather data concerning the kind of support you feel you need to prepare for and teach online courses. It will also measure whether or not you feel you receive that support from your institution. All responses are anonymous and confidential.

The results of this survey will be used to evaluate existing online teaching support services and determine if modifications are needed. Your perception of infrastructure and administrative support services is an important factor in making these decisions.

Since the number of online teaching faculty at MCG is limited, it is critical that you complete this survey.

If you would like to receive a copy of the results, you are welcome to provide your e-mail address in the comments section of the survey and I will forward a copy of the results and analysis of the data.

By completing this survey you are giving your consent to participate.

Thank you in advance for your participation.

Online Teaching Faculty Support Survey

This brief 20 to 30 minute survey will gather data concerning the kind of support you feel you need to prepare for and teach online courses. It will also measure whether or not you feel you receive that support from your institution. Your identity is strictly confidential and will not be used in the reporting of this data. Please read each of the questions carefully and answer them honestly as they apply to you.

Demographic Information:

Please identify your gender:

Female	
Male	

Please identify your age group:

20 - 25	
26 - 30	
31 - 35	
36 - 40	
41 - 45	
46 - 50	
51 - 55	
56 - 60	
61 - 65	
66 - 70	
Over 70	

How many years of teaching experience do you have?

How many years of ONLINE teaching experience do you have?

Please check the box which best describes your teaching experience:

(A Hybrid class is defined as a class that incorporates the use of face-to-face instruction and online instruction)

I teach campus (face-to-face) classes ONLY	
I teach online-only classes	
I teach hybrid-only classes	
I teach both hybrid and online-only classes	

Online Teaching Environment:

For the online teaching environment described below, please answer the question by stating the level of your agreement or disagreement with each statement below it on a scale of 1 to 5 with 1 indicating strong disagreement and 5 indicating strong agreement. If you do not teach in an online environment, please click N/A.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
When teaching in an online environment what differences did you find between the campus and online environments?							
	Text	1	2	3	4	5	N/A
1	More difficult to communicate with online students						
2	Test security is more of a problem because it is more difficult to monitor exams for online students						
3	Online technology frequently interferes with online teaching						
4	Teaching online requires more effort and a higher energy level than classroom teaching						
5	The workload is significantly higher when teaching online						
6	I miss the face-to-face contact I once had with my students						

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
7	I was able to find new ways to help students collaborate virtually so that online students could feel closer to their classmates						
8	I feel my role changing from authority figure to facilitator						
9	Other: (Please Specify)						

Infrastructure Support:

The questions below deal with the infrastructure support of online teaching faculty. Please indicate your level of agreement or disagreement with each statement.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
Question #	Text	1	2	3	4	5	N/A
1a	In order to have a solid foundation on which to build an effective online teaching program, Administration must be in tune with the needs of the faculty						
1b	Administration is in tune with faculty needs at my institution						
2a	In order to begin the establishment of good online program, the IT department must provide reliable support						
2b	IT provides reliable support at my institution						
3a	In order to support an effective online program, the institution must have an effective, well-supported network infrastructure with up to date hardware and software						

The questions below deal with the infrastructure support of online teaching faculty. Please indicate your level of agreement or disagreement with each statement.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
3b	My institution has an effective, well-supported network infrastructure						
4a	Maintaining up to date servers and server support is an important foundation to the ability to teach online						
4b	My institution maintains up-to-date servers and good server support						
5a	Establishing an online student Registration, Billing, and Payment system is an important foundation in the development of an online teaching program						
5b	My institution provides an adequate online student Registration, Billing, and Payment system						
6a	Establishing an online bookstore service is an important part of the foundation for an online teaching program						
6b	My institution provides an adequate online bookstore						
7a	Establishing online library services is an important part of the foundation for an online teaching program						
7b	My institution provides adequate online library services						
8a	Clear policies are important to the development of an online program						
8b	My institution has clear policies that describe and guide our online program						
9a	Staff development (e.g. training) is an important part of the process of implementing an online program						
9b	My institution has a good staff development program						
10a	Faculty development (e.g. training) is an important part of the process of implementing an online program						
10b	My institution has a good faculty development program						

The questions below deal with the infrastructure support of online teaching faculty. Please indicate your level of agreement or disagreement with each statement.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
11a	Faculty or peer mentoring is essential to further the development of faculty in an online teaching environment						
11b	My institution provides a good faculty mentoring program						
12a	Providing training and assistance in how to convert a traditional class to an online format is essential to the development of an online program						
12b	My institution provides effective training and assistance to me						
13a	Providing assistance and training on how to meet the needs of an online non-traditional student is essential in the development of an online training program						
13b	My institution effectively provides this training and assistance to me						
14a	Providing assistance and training in how to use electronic media to create and grade online assignments is essential to the development of an online training program						
14b	My institution effectively provides this training and assistance to me						
15a	Ensuring that faculty are properly trained and comfortable with a variety of basic technologies needed to develop and deliver online training is essential in the development of an online training program						
15b	My institution effectively provides this training and assistance to me						
16	What difficulties do you experience (if any) in designing and developing your own online content?						

The questions below deal with the infrastructure support of online teaching faculty. Please indicate your level of agreement or disagreement with each statement.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
17a	Providing Instructional Designer support for faculty is an important part of developing an effective online teaching program						
17b	My institution provides good Instructional Designers to help me develop my online course						
18a	Providing attractive faculty incentives is a vital part of the development of an effective online teaching program						
18b	My institution provides attractive faculty incentives to faculty who teach online						
19a	Teamwork is essential to the development of an effective online teaching program						
19b	My institution employs an effective teamwork approach						
20a	An effective Course Management System such as WebCT, Blackboard, or ANGEL is an essential part of an online teaching program						
20b	My institution employs an effective course management system						
21a	A helpful Course or Lesson Delivery System (e. g. Tegrity, Apreso, Camtasia, Impatica) is essential to the effective development of an online teaching program						
21b	My institution employs effective Course or Lesson Delivery Systems						
22a	Online test security is essential to the development and strength of an online teaching program						
22b	My institution has a good online test security process						
23a	The continuous search and evaluation of new online technology is essential to the continued upkeep of an online program						

The questions below deal with the infrastructure support of online teaching faculty. Please indicate your level of agreement or disagreement with each statement.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
23b	My institution has a good process to search for new online technology						
24a	Updating technology only when there is value added rather than just because the technology is new is a valuable policy in the maintenance of online teaching programs						
24b	My institution has a good policy of updating technology only when there is value added						
25a	It is very important to periodically assess and update the quality of online course content						
25b	My institution has a good policy of periodically assessing and updating the quality of online course content						
26a	Because online teaching can easily become a 24/7 process, it is very important to establish limitations on the intrusion into personal time for faculty who teach online						
26b	My institution is considerate of personal faculty time and makes an effort to curtail the intrusion into personal time for online teaching faculty						
27a	It is important to survey faculty semiannually so administration can stay abreast of current needs and trends						
27b	My institution surveys faculty semiannually to stay abreast with current needs and trends						
28a	Students should be surveyed at the end of each semester so administration and faculty can stay abreast of current student needs and trends						
28b	My institution surveys students at the end of each semester to stay abreast of current needs and trends of students						

The questions below deal with the infrastructure support of online teaching faculty. Please indicate your level of agreement or disagreement with each statement.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
29a	Online programs should be updated and modified regularly in response to appropriate feedback from surveys						
29b	My institution is quick to make effective modifications in response to feedback from surveys when appropriate						
30	After beginning your online teaching program, what skills did you find lacking or that could have helped you improve your online course (if any)?						

Institutional Support for online students and faculty:

The questions below address institutional support for online distant students and for faculty who teach online. Please indicate the level of your agreement or disagreement with each statement.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
Question #	Text	1	2	3	4	5	N/A
1a	Providing online access to academic advisors for distant online students is a very important part of an online teaching program						
1b	My institution effectively provides online access to academic advisors to our students						
2a	Providing online access to financial aid advisors for distant online students is a very important part of an online teaching program						
2b	My institution effectively provides financial aid advisors to our students						
3a	Providing online access to help desk support for assistance with student technology issues is a very important part of an online teaching program						
3b	My institution effectively provides online access to help desk support to our students						

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
4a	Providing online access to help desk support to assist online teaching faculty with technology issues is a very important part of an online teaching program						
4b	My institution effectively provides online access to help desk support to our faculty						

Validation of Matrix:

The Matrix is a summary checklist of factors that should be carefully considered when developing an online teaching program.

Please look carefully at the Matrix below before answering the questions that follow.

Online Teaching Infrastructure Matrix		
Supportive Infrastructure Implementation Stage		
Foundation	Development	Maintenance
1. Administration in tune with faculty needs 2. IT department with customer oriented support role 3. Effective and well-supported campus network 4. Effective Server Support 5. Online Student Registration, Billing and Payment System 6. Online Bookstore Services 7. Online Library Services	1. Online Program Policies 2. Staff Development Program 3. Faculty Incentives 4. Teamwork Approach 5. Faculty Development Program 6. Faculty Mentoring Program 7. Course Management System 8. Lecture capture or course online delivery system 9. Online test security	1. Continuously evaluate new online technology 2. Update technology only when value added 3. Periodically assess and update quality of course content 4. Set limits on online faculty personal time intrusion 5. Survey faculty semiannually 6. Survey students at end of every Semester 7. Make changes to programs based on faculty and student input

Please indicate your level of agreement or disagreement with the statement below.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5-Strongly Agree, N/A=Not Applicable							
Question #	Text	1	2	3	4	5	N/A
1	The Matrix accurately reflects a solid developmental process for an online teaching program						
2	What item(s) would you remove from this Matrix to help improve it (if any)?						
2b	If you suggested any changes in question 2, please explain why you would make the suggested changes to the Matrix.						
3	What item(s) might you add to this Matrix to help strengthen its usefulness (if any)?						
3b	If you suggested any changes in question 3, please explain why you would make the suggested changes to the Matrix.						

Faculty Online Teaching Incentives:

If administration were to consider incentives to encourage greater faculty involvement in online education, which of the following incentives would you consider most appealing. Please rate the following list of incentives from most to least appealing in order with 1 being most appealing and 9, least appealing.

1 = strongest incentive… 9 = weakest incentive.	**Ranking**
Challenging work environment	
Extra pay for teaching online	
Promotion and Tenure consideration	
Immediate access to technical support	
Course development support	
More training opportunities	
Release time	
Easy access to technology for course development and online delivery (e. g. hardware, software, laptops, projection equipment)	

Other incentives:	

Online Teaching Impediments:

Please identify factors that you would consider impediments or disincentives to encouraging faculty to teach online. Please rank the following list of impediments from strongest to weakest in order with 1 being the strongest impediment and 12, the weakest impediment.

1 = strongest impediment… 12 = weakest impediment.	**Ranking**
Strenuous work environment	
Lack of interest in using technology to teach	
No monetary incentive	
No Promotion or Tenure consideration	
No, or limited access to technical support	
No course development support	
Anxiety about learning new technology	
No release time	
Insufficient training	
Lack of adequate technology (e. g. equipment, software)	
Technology not appropriate for course material	
Other disincentives:	

Additional Comments:

Other comments (if any):

Thank you for your honest feedback and help in better understanding the needs of online teaching faculty.

Appendix B

Expert Review Panel Instructions

Date: January 26, 2008

Dear Expert Evaluation Review Panel Member,

Thank you for helping me with my dissertation titled Administrative Support of Online Teaching Faculty**.** As a review panel member, I am asking you to validate the Online Teaching Infrastructure Matrix along with the Online Teaching Faculty Support Survey

I need you to help me:

- determine whether the Matrix needs to be modified or added to in any way,
- determine whether the survey questions are adequate for this type of study and for the intended audience,
- to validate the Matrix and survey as clearly understandable and to sufficiently cover the topic of administrative support for online teaching faculty.
- look for wordiness and make any edits where necessary.

The following research questions will guide the investigation:

1. What do faculty members perceive to be the most significant needs in developing, and supporting the delivery of online education?
2. What aspects of the online teaching environment are different from the campus (face-to-face) environment and thus demand different considerations?
3. What incentives or rewards do faculty members need to encourage enthusiastic participation in online or hybrid education?
4. How do current institutional policies and processes support faculty who teach online or hybrid courses?
5. What existing administrative support programs do faculty find effective in supporting the development and delivery of online or hybrid education?
6. What are the faculty needs with regard to training, mentoring, or assistance in using the technology associated with delivery of online or hybrid education?

Your assistance is greatly appreciated.
If there are any questions please feel free to call me.
Sincerely,
John Meyer
School of Allied Health
Medical College of Georgia
Work: (706) 721-1104

Appendix C

Feedback from Expert Panel Review on Survey and Matrix

Statistician's Feedback

1. Be sure to identify your population first, then you may need to select a random sample from the whole population.

2. Using data from all volunteer respondents would also work, but the data may be skewed because of missing data from non-volunteer, non-respondents. Try to emphasize the importance of the survey, and you may need to solicit a response several times.

3. Change age groups so that they don't overlap the same year.

4. Total teaching experience may need to be reduced to fewer options, or just have a single entry where the faculty member can enter the number of years.

5. Total online teaching experience may need to be reduced to fewer options, or just have a single entry where the faculty member can enter the number of years.

6. Change question #5 in the hybrid teaching questions from significant to significantly.

7. Some of your b questions in the main section may need to be rewarded so they don't appear to be simple Yes/No answers.

8. Be wary of using "Other: (please specify)" questions at the end of predesigned questions. You may get so many varied responses that may make the data hard to analyze.

9. A t-test may be the best way to analyze and compare the data between the a and b questions.

Instructional Designer's Feedback

1. The questions seem to match the objective.

2. The overall layout is appropriate.

3. You may want to enhance the understanding of each process within the Matrix by adding a short explanation above each level to describe the purpose of that level.

4. It is good that you stay consistent in the use of the Likert Scale throughout the survey. All strongly disagree answers are on the 1 side of the scale and the strongly agree answers are on the 5 side of the scale.

Program Support Specialist's Feedback

1. There is overlap of teaching years that needs to be corrected.

2. Change the wording for the type of classes taught from "I teach both hybrid and online classes" to "I teach both hybrid and online only classes." Or should online be changed to campus?

3. In the Matrix I see little or no difference between items 2 and 4 in the foundation stage. Maybe they should be reworded or combined.

4. You may want to change item 5 in the maintenance stage of the Matrix from "semiannually" to "each semester." The technology, support and courseware change about that often.

5. May want to remove the ranking of the final question "Other" of incentives and disincentives. It may be hard to rank if there is nothing filled in.

6. Some incentives do not have corresponding impediments. Is this intentional? Why are there more impediments than incentives?

Multimedia Support Specialist's Feedback

1. There should also be a question that asks about orientation of students to the technology. Students are often intimidated by the online technology and need better preparation to use it.

2. In question 6 of the hybrid teaching environment questions, the word "miss" should be changed to something more adequate.

3. In question 1a, change the word "sound" to "effective."

4. Question 2a should be reworded for clarification.

5. In question 3a, change the word "healthy" to "effective."

6. In questions 12a, 13a, 14a, and 15a, change "is very important" to "is essential."

7. In question 17a change the word "strong" to "effective."

8. In questions 20b and 21b change the word "good" to "effective."

9. Questions 26a and 26b are irrelevant to the needs of the institution. The institution does not care whether faculty are being overworked. They are overworked in campus classes as well as online classes.

10. For the question on incentives to encourage greater faculty involvement in online education, giving credit for publishing when delivering an online course should be included.

Academic Services Professional's Feedback

1. Recommend you divide the introductory sentence in two, replace "and" with a period, and add "It will also measure" to the second sentence.

2. Recommend you simplify the question for total teaching experience question to make it less wordy.

3. You may want to add portable delivery system to your Foundation stage of the Matrix.

4. Items 5 and 6 of the Development stage of the Matrix seem to be the same. You may want to consider changing one of them.

5. The use the term "support roles mentality" in questions 2a may be hard for some people to understand.

6. I really like the question on what faculty consider to be good incentives. I am very much interested in the answers to this question.

Information Technology Network Support Professional's Feedback

1. Some suggested modifications to item 3 of the foundation stage of the Matrix. You may want to change "Updated Network Hardware" to something like "Does network support planned application?" or "Does the firewall and proxy adequately protect the

network?" You also may want to consider adding something like "How will the online applications impact the current network?"

2. In the development stage of the Matrix you may want to add "Need packet sniffer to identify bottlenecks in network" or "Need to ensure applications run efficiently on the network." Another addition to consider would be "Plan to test applications on the network before implementation."

3. Questions 3a and 3b may need to be modified to read "Do you get feedback from network administrators as to the cause of problems?" or "Do enterprise applications meet expectations?" or "Does the network support traffic loads?"

#1 Faculty Program Director's Feedback

1. For question on what type of class they teach, add "on-campus only" as an option to eliminate those who have no experience teaching online.

2. For question on hybrid teaching change wording to clarify: "When teaching in a hybrid environment, defined as teaching both classroom students and online students at the same time, what differences did you find between the two environments?

3. Add adjectives to questions 5b, 6b, 7b, 12b, 13b, 14b, 15b, 17b, to add the level of support expected by the institution.

4. Correct misspelling s in 28b

5. On question about impediments to faculty who teach online – change the word Challenging to strenuous.

#2 Faculty Program Director's Feedback

1. For question on hybrid teaching change wording to clarify. Lead in with a statement that identifies the questions as applicable to hybrid courses only.

2. In question 4 change "high energy level" to say "a higher energy level,"

5. Reword question 5 from "I realize a significant higher workload with online teaching" to "Workloads are significantly higher when performing online teaching."

6. It is good that you put an open ended comment box for question #9.

7. For item #2 in the Matrix under the Foundation column, I am not totally sure what you mean with this statement with the last word mentally. Is it their mental desire to support or the faculty's mental understanding that they will support?

8. For questions about the Matrix, you may want to ask WHY they would or would not make any changes to the Matrix.

9. Correct spacing for question #2a.

10. Clarify the term "support role mentality" for question #2b.

11. In Question #11a change "to the further development" to "to further the development."

12. Consider the use of an alternate word to "non-traditional" in question #13a. This is the first time I believe you have used this classification. The definitions of non-traditional are changing (at least in my mind). I would still think many believe an on-line

student is non-traditional, but today, are they really? What does the literature say about classification types? This may lead you better.

13. For question #13b, you are giving direction for answers for provision of services to the person taking the survey. Would it be better to ask if the institution provides the service and then a question on whether the faculty member actually used the service if it was available? That would sort of mess up the answer key though unless you could get the survey to direct to another table and then back again to pick up where you left off.

14. For question #20a, remove period to maintain consistency.

15. For question #27b, correct word “tends” by changing to “trends.”

16. For question on impediments to encouraging faculty to teach online, change capitalization on two of the answers.

Appendix D

MCG - Institutional Review Board Approval

Human Assurance Committee (HAC)
Institutional Review Board (IRB)

John D Meyer, MS, MA, BS, AAS, A+
AA 2028 Health Informatics

March 25, 2008

RE: Online Teaching Faculty Support Survey

HAC File Number: 08-03-221

Approval Date: 03/20/2008

Expiration Date: 03/19/2009

Dear Dr. Meyer:

The referenced protocol was examined and found to be exempt from review by the Human Assurance Committee (HAC) chairperson or designee in accordance with the Department of Health and Human Services (DHHS) policy and the institutional assurance on file with the DHHS under the following criteria:

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

If the study will continue beyond the initial approval term, review by the HAC Chairman is required, with a progress report constituting an important part of the review. The Committee will send a HAC Form 107 form [Clinical Study Status Report] for completion. Failure to return this report by its due date will result in an automatic termination of this study. Reinstatement will only be granted following resubmission of the study to the HAC.

The HAC has determined that the interval of continuing review as noted by the approval and approval expiration dates above is appropriate to the degree of risk for this protocol.

If Veterans Affairs (VA) facilities will be involved in this study, you must also obtain a letter of approval from the VA Research & Development Committee prior to involvement of VA facilities.

Sincerely,

George S. Schuster, D.D.S., Ph.D.
Chairman, Human Assurance Committee
CJ-2103

C: HAC file, chron

Appendix E

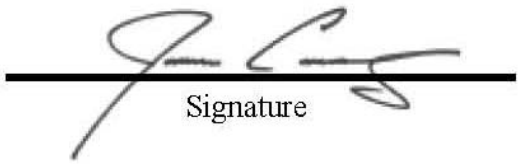
NSU - Institutional Review Board Approval

NOVA SOUTHEASTERN UNIVERSITY
Office of Grants and Contracts
Institutional Review Board

MEMORANDUM

To: John Meyer

From: James Cannady, Ph.D.
Institutional Review Board


Signature

Date: April 15, 2008

Re: *Online Teaching Faculty Support Survey*

IRB Approval Number: cannady04150802

I have reviewed the above-referenced research protocol at the center level. Based on the information provided, I have determined that this study is exempt from further IRB review. You may proceed with your study as described to the IRB. As principal investigator, you must adhere to the following requirements:

1) CONSENT: If recruitment procedures include consent forms these must be obtained in such a manner that they are clearly understood by the subjects and the process affords subjects the opportunity to ask questions, obtain detailed answers from those directly involved in the research, and have sufficient time to consider their participation after they have been provided this information. The subjects must be given a copy of the signed consent document, and a copy must be placed in a secure file separate from de-identified participant information. Record of informed consent must be retained for a minimum of three years from the conclusion of the study.

2) ADVERSE REACTIONS: The principal investigator is required to notify the IRB chair and me (954-262-5369 and 954-262-2085 respectively) of any adverse reactions or unanticipated events that may develop as a result of this study. Reactions or events may include, but are not limited to, injury, depression as a result of participation in the study, life-threatening situation, death, or loss of confidentiality/anonymity of subject. Approval may be withdrawn if the problem is serious.

3) AMENDMENTS: Any changes in the study (e.g., procedures, number or types of subjects, consent forms, investigators, etc.) must be approved by the IRB prior to implementation. Please be advised that changes in a study may require further review depending on the nature of the change. Please contact me with any questions regarding amendments or changes to your study.

The NSU IRB is in compliance with the requirements for the protection of human subjects prescribed in Part 46 of Title 45 of the Code of Federal Regulations (45 CFR 46) revised June 18, 1991.

Cc: Protocol File
Office of Grants and Contracts (if study is funded)

Appendix F

Letters of Acknowledgement from MSG Administrators

School of Allied Health Sciences
Office of the Dean

November 24, 2008

John D. Meyer, Ed.S., MA, CompTIA A+
Director of Instructional Support and Student Affairs
School of Allied Health Sciences
1120 15th Street, Suite EC1207, Augusta, GA, 20912

Mr. Meyer,

I have reviewed the summary of your study, including the compilation of data and the analysis. I would like to thank you for all the work you put into accumulating this valuable information and sharing your results with me.

This information comes at a most opportune time when we are in the process of conducting other campus wide surveys, and are developing a strategic plan that will drive our efforts for online learning over the coming years. Your analysis and recommendations will help us to prioritize our resources, timelines and expectations.

Elements of your study and the subsequent analysis will help guide the decisions we make concerning online program development, implementation, and teaching responsibilities/workloads for the future. Your recommendations will be considered while implementing our strategic plan.

Thank you and best wishes with your continued research.

Sincerely,

Shelley Mishoe

Shelley C. Mishoe, Ph.D.
Dean
School of Allied Health Sciences
Medical College of Georgia

School of Allied Health Sciences
Office of the Dean

November 22, 2008

John D. Meyer, Ed.S., MA, CompTIA A+
Director of Instructional Support and Student Affairs
School of Allied Health Sciences
1120 15th Street, Suite EC1207, Augusta, GA, 20912

Mr. Meyer,

I read the summary of your study and reviewed the compilation of data and the analysis. Thank you for sharing this valuable work with me; the information from your study will be very useful to the School.

As you know, we are in the process of implementing a revised strategic plan for our School and the information from your study can be used to guide key aspects of this plan. Your study also confirms important elements regarding faculty perceptions; understanding how faculty view online teaching is essential to creating the proper environment so that faculty and students can flourish.

Thanks again for all your work on this important study.

Sincerely,

Carol A. Campbell

Carol A. Campbell, RHIA, DBA
Associate Dean, Academic and Business Affairs
School of Allied Health Sciences
Medical College of Georgia

School of Allied Health Sciences
Office of the Dean

November 20, 2008

John D. Meyer, Ed.S., MA, CompTIA A+
Director of Instructional Support and Student Affairs
School of Allied Health Sciences
1120 15th Street, Suite EC1207, Augusta, GA, 20912

Mr. Meyer,

Thank you for forwarding the results of your project "Administrative Support for Online Teaching Faculty." As part of our school's instructional support and leadership team, these data are helpful in better quantifying the perceptions of our faculty regarding the infrastructure for on-line teaching. Personally, one of the most revealing findings was the overwhelming need for more faculty and staff development.

I am sure these findings will find their influence into how we address the resource allocation around on-line course development and implementation. I would recommend that these finding also make their way to our campus-wide Information Technology Support & Services unit.

As with most projects of this magnitude, there are typically more questions than answers that spring forth. I hope that you will continue to look into the apparent mismatch with needs and resources and find a few solutions to help us move forward with providing the most appropriate environment for on-line teaching to thrive.

Sincerely,

W. Kent Guion, MD, MA
Associate Dean for Student, Faculty, and Community Affairs
School of Allied Health Sciences
Medical College of Georgia

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