Online Student Support Services:
A Case Based on Quality Frameworks

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Abstract

Expansion of online teaching and learning has fostered the creation of numerous standards and frameworks to evaluate and promote quality in online instruction and learning. Review of these standards showed that there is consistency in indicators of quality for online programs. One indicator, student support, was selected for study. Quality frameworks were reviewed to determine if student support was included among the indicators. Then, to examine the inclusion of student support services within a real-world context, a case was selected for observation and illustration. Examination of the case showed that faculty and administrators had designed and were delivering critical student support services. Both new and existing support systems were needed and provided. This case indicated a primary need and provisions for student support in the following areas: admissions and registration, advising, orientation, learning support, scholarships and awards, library resources, computing and technology resources, articulation with other institutions, career placement, and communication.

Keywords: student services, online services, distance education services, quality standards, supporting student success

Introduction

Program and course evaluations provide a foundation for appropriate review and assessment of online educational pursuits. Expansion of online teaching and learning has fostered the creation of numerous standards, guides, and frameworks to evaluate and promote quality in online offerings. A selection of these frameworks provides indicators of the aspects of online delivery that are important for course quality.

While not always clearly differentiated, quality standards or frameworks can be applied to both programs and courses. Whether they are formatted into principles (Western Cooperative for Educational Telecommunications [WCET], 2001), scales (Walker & Fraser, 2005), categories (National Institute of Standards and Technology [NIST], 2009), clauses (Canadian Standards Association, 2009), benchmarks (Phipps & Merisotis, 2000), dimensions (Jung, 2011, 2012), elements (MarylandOnline, 2008), standards (MarylandOnline, 2008), or values (International Center for Academic Integrity, 1999), each can be used to capture and share a vision of the elements of online education that are critical to quality.

This paper is based on the authors' perceptions and experience that support is important for student success. Quality frameworks were studied to find whether support factors were included. A case was investigated to observe the application of student support services. Schematically, this paper proceeds in the following sequence: examination of quality frameworks, identification of student support, and case observation.

Quality Frameworks for Online Learning

Representative standards focus predominately on the evaluation of online programs. They include the following:

- The Sloan Consortium's Quality Framework (Moore, 2005);

- WCET's Best Practices for Electronically Offered Degree and Certificate Programs (WCET, 2001);

- Distance Education Learning Environments Survey (Walker & Fraser, 2005);

- Quality Matters (QM) (MarylandOnline, 2008);

- American Distance Education Consortium (ADEC) Guiding Principles for Distance Teaching and Learning (ADEC, 2003);

- Quality Improvement Framework (Inglis, Ling, & Joosten, 2002);

- Institute for Higher Education Policy (IHEP) Benchmarks for Success in Internet-Based Distance Education (Phipps & Merisotis, 2000);

- Universitas 21 Global Quality Framework (Chua & Lam, 2007);

- Australasian Council on Open, Distance and E-learning (ACODE) Benchmarks (ACODE, 2010);

- Proactive Evaluation Framework (Sims, Dobb, & Hand, 2002);

- Quality Preference Framework (Ehlers, 2004);

- Model for Quality in Distance Education (Jung, 2012).

Review of these standards by multiple authors has shown that there is consistency in indicators of quality components for online programs (Goodson, Miertschin, & Stewart, 2012; Inglis, 2008; Jung, 2011; Parker, 2008; Wang, 2006). Parker states, "Although the regulatory frameworks for quality assurance vary dramatically ... there is still enough common ground to establish some general characteristics for a scholarly approach to online teaching and learning" (p. 305). With this in mind, review of these quality standards, guides, and frameworks revealed great commonality. Specifically, student support was selected for study because the authors' experiences suggested it was important and because preliminary evidence in the literature indicated that support was perceived as an indicator of quality. Student support was consistently listed among the many important components of quality. Student support systems were found to be linked to quality factors in over half of the frameworks reviewed. For the frameworks that did not list student support services specifically, in nearly all cases, terminology either suggested or subsumed student support. For example, the 2009-2010 Malcolm Baldrige National Quality Award

Education Criteria for Performance Excellence defined by NIST (2009) employ the term "customer focus," which implies inclusion of elements of student support. Examples of student support terms included "student support" (ACODE, 2010; McKinnon, Walker, & Davis, 2000; Phipps & Merisotis, 2000; Sims et al., 2002; Wang, 2006; WCET, 2001), "learner support" (MarylandOnline, 2008), "supporting the needs of learners" (Inglis et al., 2002), "tutor support" (Ehlers, 2004), "effective student services" (Goodson, Faulkenberry, Miertschin, & Stewart, 2004), and "support" (Phipps & Merisotis, 2000; Simelane, 2009).

Hence, the review of quality frameworks showed strong enough value for student services as a component of quality that the researchers judged the provision of these services as appropriate for further investigation. The excerpts from the literature that follow demonstrate both the perceived value shown for student support services and the position of student support among other indicators of quality.

Jung (2011) studied Korean students' perceptions of e-learning quality and included various aspects – technical, psychological, social, administrative, and complaint – of student support as one of her seven initial dimensions. By 2012, in a more comprehensive study of Korean and other Asian learners, she expanded her dimensions to 10, categorized these dimensions into three domains, and included the student support dimension within a domain she labels "supportive domain" (Jung, 2012, p. 5).

Three broadly recognized quality frameworks provide further illustration. The QM Program provides for assessment of 40 elements distributed across eight broad standards (MarylandOnline, 2008). "Learner support" and "accessibility" are two of the eight broad standards. IHEP (2010), striving to influence public policy on postsecondary education, published 24 benchmark criteria. The benchmarks are organized into seven standards. "Student support" is one of the seven standards. Similarly, the WCET (2001) published best practices including 27 principles across 51 activities. The five institutional level activities include "student support."

Methods

The literature review was designed to verify whether or not student support was included as an indicator of quality of online instruction. Since student support was found to be included as a factor of quality consistently in research studies and frameworks, it was retained as the focus of this investigation. Then, a method was sought to view the inclusion of student support and its impact on quality in a real-life context.

Operationally, student services were defined as the academic, administrative, social, and psychological policies and practices to enable and facilitate student success.

Case study as a qualitative empirical methodology was selected. Yin's (1994) recommendation of the case study method as an investigation of contemporary phenomenon within real-life contexts formed a foundational element of this study. This study was further undergirded by Lofland and Lofland's (1995) methodological recommendations to seek patterns in frequencies, magnitudes, structures, processes, causes, and consequences. From this list, this study emphasized Lofland and Lofland's recommendations to include frequencies, structures, and processes in investigations.

Yin (1994) proposes the formation of propositions from a research question as a link to what is examined in a study. He further suggests that these propositions define the units of analysis. This process guided the selection of a single case with which the researchers were very familiar and had access to germane details to answer the following research question:

> *What types of student support are needed and available to online students?*

From this research question, following Yin's recommendation, four propositions were drawn:

1) Support services are available to online students.

2) Existing support services can be used by online students.

3) New support services are available for online students.

4) Access to support services is needed by online students.

Hence, as Yin (1994) recommends, these propositions guided investigation of the case as a study of student support in a real-world contextual online setting.

The researchers recognized the need in this study to foster validity and followed Yin's (1994) charge to use a prescribed protocol as a means of establishing reliability and validity for case studies. For this study, the protocol included: (1) formulating an overview of the project including objectives and readings;

(2) evaluating the readings for the presence or absence of references to student services; (3) providing a sequence for the observation of student support services; and (4) adhering to the protocol in preparing the final report as outlined by Yin. Following Lofland and Lofland's (1995) orientations, both objective case details and the subjective observations of the researchers were recorded, tabulated, and categorized.

The following illustrative case is the basis for the discussion of supporting online students. While future research would benefit from the inclusion of additional cases, this work reflects Eisenhardt's (1989) value for theoretical rather than statistical sampling in case selection. The authors, in the roles of researchers-as-participants, were in ideal positions to review and reflect upon student support. Pettigrew (1990), for example, suggests that when the number of cases that could be studied is substantial, it makes sense to select cases for their particular value. Hence, this case was selected because of the experience of the authors.

More generally, case methodology was selected because of its capability to investigate contemporary phenomena in real-life contexts (Yin, 1994). Online education certainly is both contemporary and exists within a real-life context. Soy (1997) suggests that in addition to producing, disputing, and building upon theory, case study research design is useful in describing, explaining, and applying and evaluating solutions to objects, phenomena, and situations.

Identification of student services, both needed and offered, was enabled through student, faculty, and staff interviews as well as examination of University websites, catalogues, student orientation materials, and directories. Tracking and documenting student outcomes was facilitated by the familiarity of the researchers with the case due to their roles of researchers-as-participants. Tools used to observe student outcomes included course summative and formative evaluations, the college-wide instructional effectiveness instrument, online discussion boards and chat sessions, live and online conversations, feedback from a professional advisory board, a student survey of critical factors for online success, and elements of an intensive accreditation self-study and site visit process.

Case Description

The students of the Bachelor of Science in Retailing and Consumer Science (RCS) degree program at the University of Houston (UH) are part of a large urban institution located in the middle of an expansive metropolitan region. The program is well established, having been offered for more than 30 years. Ninety percent of the student population lives and works off campus. Specifically, more than 90% of RCS majors are employed, with the majority working full time. Commuting times to campus can be challenging. Increasingly, students who work and live in an electronic environment raise expectations and opportunities for the use of technology in their educational experiences. At the same time, faculty and administrators extend their knowledge and skills to applying technology to learning environments. Evidence of student use of technology provided early encouragement for the development of online classes for this program. Additionally, a statewide initiative toward a common general education core across public institutions of higher learning provided opportunity. Since students could complete their general education core in multiple locations and online, the RCS faculty could focus on developing major courses in an online format.

The first online course in the program was offered in 1997. By Fall 2002, six of the 12 courses in the RCS major were available to students online. Shortly after Spring 2003, all courses were taught online (Stewart, Norwood, Ezell, & Waight, 2006).

Case Outcomes

It is from this vantage point that this case offers experience that may be beneficial in considering best practices. Consistent cycles of assessment, change, and reassessment resulted in the emergence of multiple issues. Among the critical issues was the need for numerous and varied types of support for students.

The RCS faculty members, in their roles of researchers-as-participants, not only determined student needs and designed and executed systems to meet the support needs of students, but they also recorded and catalogued the systems and evaluated their impact for students. This process provided a record of student support initiatives and outcomes, which is described herein.

The following section contains a listing and description of the support services for students used in this case study. While it is somewhat lengthy, it is shared both to illustrate the scope of services needed and

to demonstrate that in this case the collaborative efforts of university administrators with faculty as well as college, department, and program leaders provided the expansive range of services needed by online students.

Types of Student Support

Objective and subjective observations resulted in the identification of existing and needed student services. An analysis of these services enabled the creation of categories for them. In addition, the four propositions based on Yin (1994) outlined earlier were each confirmed. Furthermore, this case indicated a primary need for student support in the following areas:

- admissions and registration;

- academic advising;

- orientations to the University and to online learning;

- academic support services;

- scholarships and awards;

- library resources;

- computing and technology resources;

- articulation and transfer from other institutions;

- career placement.

Needs for communication and connectivity were found to be pervasive throughout the support systems.

Finally, from observations and analysis, categories of services emerged. These services were further categorized by whether they were provided at the (1) course; (2) Department/College; or (3) University levels. The resulting structure is presented in Figure 1.

Descriptions of Student Support and Student Support Outcomes

In some cases, systems or services were designed and implemented specifically to support online students. In other cases, accommodations were made to existing mainstream services to facilitate access for online students.

- *Course design elements that support students.* The faculty involved in this case supported students through course design; they developed course elements and features to enable student success. Course structure and content delivery were the two major areas most carefully considered.

  Course structure issues included: (1) systematic implementation of a learning management system (LMS); and (2) student information systems that were easy to access, easy to navigate, and easy to use without technical difficulty. To support course and content access, orientation materials and syllabi were created to provide students with a clear understanding of course objectives, materials, expectations, and assessments. These materials included information about objectives, content, contacts, texts and materials, technical requirements, policies and procedures, assignments and exams, grading, help, calendars, resources, and course features.

  Course content organization within the online delivery format was the second major area of course support for students. For most courses, content modules were developed to facilitate delivery of content and to break the material into approachable units. Each module was set up so that students could easily access module objectives; content outlines and terms; content presentations in PowerPoint, streamed video, or other forms; module assignments; and module assessments. Students could easily "click through" the module sequence and resources to engage in the learning process. Enrichment links were also provided to enhance the learning experience.
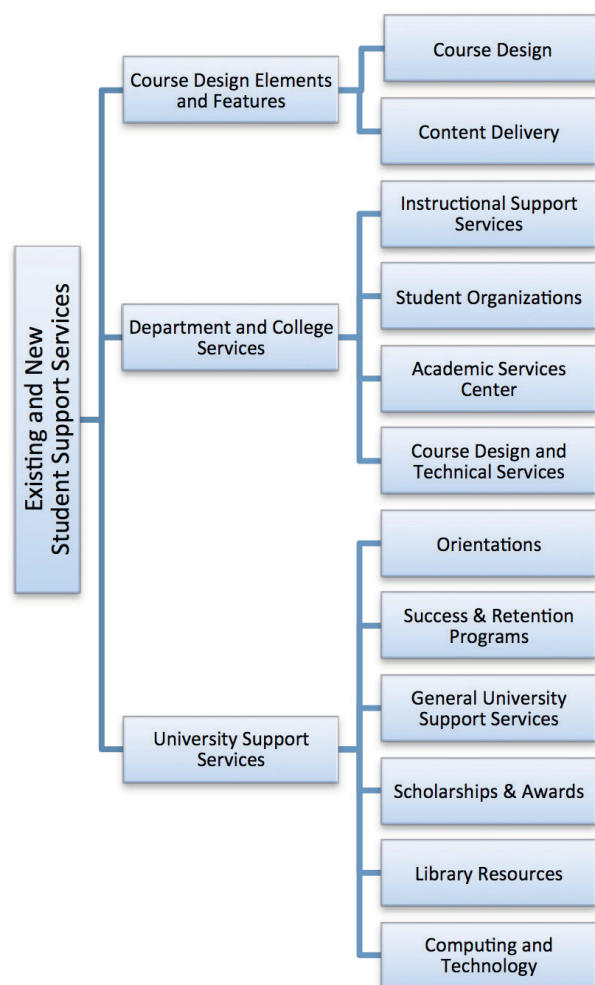
Figure 1. *Categories of student support services emerging from observations and analysis*

- *Course design elements outcomes.* Consistently, student reports from the multiple outcome measures indicated that well-designed course structures and delivery modes are important support components and are beneficial to student success.

Specifically, student success was enabled by the incorporation of a user-friendly course learning platform. In this case, the University adopted a standard commercial LMS to provide a uniform course format. The Department also employed a technical specialist to support faculty development of courses in a consistent format within the LMS. Students expressed appreciation for the consistency provided by a common format. A familiar working environment across courses freed them to focus on the course content rather than the operational system.

Paramount in students' perceptions of support through course design was appreciation of clear instructions. These facilitated easy access to course components, navigation within course sites, and use of instructional materials without technical difficulties. Course specific orientation materials and syllabi that clearly delineated course processes, expectations, and resources were highly valued.

Students responded positively when course delivery methods facilitated their success. Content modules, used to break the course into approachable units, provided students with the ability to progress through the course a step at a time, yet also allowed them to see the big picture of the course in its entirety. Completion of one unit at a time, for example, was reported as providing a sense of satisfaction and progression.

Department and College Support Services for Students and Outcomes

While course level design systems and features, created primarily by the instructors, were imperative for student success, additional needed services were provided by the Department and the College. These were in the areas of learning support, student organizations, academic advising, and instructional design. In some cases, divisions between Departmental/College services and University services were blurred since each level may have provided service.

- *Instructional Support Services Center.* The primary mechanism for student learning support beyond the course level, yet within the Department, was the Instructional Support Services Center (ISS) Lab. The ISS Lab offered many services to aid with student learning, achievement, progression, and retention. Over the time period spanned by the case, these services evolved to accommodate the increase in online offerings. For example, individual course tutoring was initially offered on campus through the ISS Lab. As need arose, and over a two- to three-year period of iterative design–implement–evaluate cycles, online tutoring was incorporated (Miertschin, Goodson, & Schroeder, 2010). Currently, the ISS Lab offers the following student services:

  o course software assistance;

  o individual course tutoring (both face-to-face and online);

  o Graduate Record Examinations (GRE) preparation;

  o supplementary course materials;

  o a meeting place for students working on group assignments;

  o a worksite for teaching assistants to support online courses;

  o distribution of student course materials;

  o collection of student assignments, as requested by the instructor;

  o provision for student supplies;

  o proctoring of flexibly scheduled exams or makeup exams.

  The ISS Lab also provides faculty support for online courses.

- *Student organizations.* A professional student organization, Collegiate DECA (previously known as Delta Epsilon Chi and Distributive Education Clubs of America), supported students through membership and leadership opportunities. In addition to establishing connections to one another, students developed channels to the faculty, campus, and community. Student members engaged in diverse activities including sponsorship of speakers, student discussions, service projects, fundraising activities, career days, and campus events. In addition there were outreach opportunities where students applied professional skills to judge and organize local and regional Collegiate DECA events for high school students. Students judged competitive events in the areas of marketing, merchandising, and retailing.

  In addition to the departmentally sponsored student organization, faculty members encouraged student participation in University-wide organizations and activities. This study found that affiliations with department and campus student organizations lessened the isolation that is sometimes experienced by online students.

- *Academic Services Center.* Counseling through an Academic Services Center (ASC) provided support with academic counseling for students. Online students were served by academic advisors via e-mail, telephone, or on-campus visits. ASC advisors oriented students to academic processes and regulations, evaluated transfer credits, created degree plans, communicated with students regarding events and deadlines, monitored academic progress, provided referrals to other campus services, facilitated career planning, and evaluated readiness for graduation.

- *Course design and technical support.* The following areas of support for online instruction were targeted for faculty but are included here because a well-supported faculty is better equipped to help students:

- o *Course design.* In addition to instructional design services provided by the University, the Department, and the College employed instructional design support staff members. These individuals trained faculty in the use of course software and online communication tools, trained and monitored graduate students who assisted with course design, and provided direct design services.

- o *Technical services.* The Department and College employed technical support personnel to support the technology needs of faculty and staff. Their responsibilities included assisting faculty and staff with hardware and software needs and maintenance of computer labs for student use.

Department and College Student Support Service Outcomes

Outcomes evaluation of support for students as provided by Department and College initiatives, including learning support, student organizations, academic advising, and instructional design, yielded positive effects for the students.

- • *Learning support.* Logs of student services, maintained by the ISS Lab, recorded individual contacts with students on a daily basis. Analysis of the logs provided evidence of extensive student use and problem resolution. Students used the ISS Lab as both a physical place of contact and as an online resource for assistance with challenges related to course content and software. Students used tutoring services in both face-to-face and online formats, which together met student needs for course support and flexibility. Mathematics tutoring and supplemental materials for courses were seen as particularly beneficial. For some online students, having a physical location on campus where they could receive face-to-face help was important. The ISS Lab supported students by providing a single highly available location where they could flexibly pick up or submit course materials and complete exams in a proctored setting. Flexible scheduling of exams and on-demand assistance accommodated students' busy lifestyles.

- • *Student organizations.* Students reported multiple benefits from participation in Collegiate DECA. DECA activities generated excitement and connection, as evidenced by conversations in online forums and e-mails to faculty. Faculty members stated that they got to know students in a deeper way through connections made through DECA-sponsored events. Speakers' forums organized by DECA provided extracurricular, relevant content and triggered valuable links to the profession. Judging high school competitions and organizing fundraisers allowed students to apply and extend classroom knowledge, practice professional communication skills, and make social connections to peers. Affiliation with DECA reinforced a sense of community, especially for those studying remotely. These findings are consistent with Tinto's (1975) suggestion that social integration is important in student retention.

- • *Academic advising.* As the site for academic advising, the ASC was used by almost all students in this case. ASC rosters and logs recorded student contact via e-mail, telephone, and on-campus appointments. Logs indicated that students benefited from support, having received advising about academic processes and regulations, evaluation of transfer credits, course sequencing, degree plans, and evaluation of progress toward graduation. Additionally, the ASC regularly made referrals to other campus services.

- • *Instructional design.* Students responded favorably that online courses were well designed. Software training, professional course design support, and training of graduate students used by instructors to create effective courses yielded positive student outcomes. Students felt course structures were easy to navigate and content was readily accessible.

- • *Technical support.* Technical support for faculty, including training, procurement services, applications, and troubleshooting of hardware and software, supported students by enhancing the capability of faculty members to teach. Added technical support in the form of assisted computer and learning laboratories for students, created an important additional direct support mechanism.

University Support Services for Students and Outcomes

Online students benefited from numerous services provided by the University as well. Some of these services were designed and directed specifically for online students, while others were available to all

potential and enrolled students. Existing services, in some cases, required careful attention in order to be made accessible for online students.

- *Orientation.* Orientations were provided at a number of different levels:

  o *General University orientations.* General University orientation programs were available for all new and transfer students in this case. Services included campus visits, registration assistance, placement testing and counseling, career guidance, and other support. Orientation programs also provided support and information for parents and families.

  o *Campus-wide online orientations.* Beyond general campus orientations, the University developed an orientation system specifically directed to online students. Pathway to Distance Education was a mandatory online orientation designed for both prospective and current students to inform them about distance education at the University. It was separate from other mandatory freshman and transfer orientations.

    Besides being provided with in-depth information about distance education at UH, students could access course materials posted by the instructor prior to the start of classes. In addition to basic information about courses, this online orientation system provided features and links with information on campus resources, University identification cards, the bookstore, tuition and fee payment, the libraries, career services, services for students with disabilities, campus student organizations, keys to success in online courses, study skills, and exam preparation strategies. Topics such as "What is distance education?," "Being a distance education student," "Getting started with Blackboard," "Keys to success in distance education classes," and "Getting ready for distance education" were included. Additionally, information about registration, buying books, technology, tuition, study skills, and online library access was available.

  o *Course-specific online orientations.* Each course instructor prepared and disseminated orientation materials specific to individual courses. These materials were provided in electronic format. For example, instructors posted items such as a "welcome" orientation letter to the course homepage or a visual presentation that was used to share course procedures, syllabus, calendar, tips for success, grading plans, tools, strategies, resources, etc.

- *University student success and retention programs.* Student success, satisfaction, and retention can be influenced by students' levels of connection and interactivity with University faculty, personnel, and systems. The University in this case supported several student success programs across campus that helped students make the transition to college and supported their academic pursuits once they arrived. These programs included the following and were accessible to online students:

  o services for undeclared students, pre-professional students, and students in transition (Undergraduate Scholars at UH);

  o tutoring and testing in mathematics (Center for Academic Support and Assessment);

  o academic services for natural sciences and mathematics (Scholar Enrichment Program);

  o enrichment for students with academic obstacles (Challenger Program);

  o services for educationally and economically underserved students (Urban Experience Program);

  o learning and self-development services to increase academic performance and improve student retention (Learning Support Services);

  o services to foster the development of written communication skills (Writing Center);

  o services focused on the Mexican American and Latino experience in the United States (Center for Mexican American Studies).

- *General University support services.* Additionally, other critical support services were provided with attention to access for online students:

o   career counseling, recruitment, assessment, and internships (University Career Services);

o   accommodation and support services for students with temporary or permanent health impairment, physical limitation, psychiatric disorder, or learning disability (Center for Disabilities);

o   psychological, educational, and social support services for students (Counseling and Psychological Services);

o   initiative to share good things about campus and encourage student attendance at campus events (Profs with Pride).

Furthermore, numerous other University services such as the University Bookstore, Office of Admissions, Division of Administration and Finance, Credits and Transfers, etc. developed operating procedures to accommodate the needs of online students.

- *Scholarships and financial aid.* The University provided an array of financial aid options to assist online students in their educational pursuits. Additional information about available University undergraduate scholarships was available via the Office of Scholarships and Financial Aid website. The College also offered scholarships directed toward online students.

- *Library resources.* Off-campus access to library resources was a critical service for online students. Detailed procedures were developed to meet needs of these students. Resource guides and tutorials were available that outlined the procedures for requesting library materials to be delivered both electronically and/or physically to prescribed off-campus distance education sites. Librarians and electronic help desk services were available. Resources were available to assist students in learning how to remotely use research tools, identify and use databases, search for appropriate sources, request materials for use, and receive materials.

- *Computing and technology help desks.* The experiences of this case suggest that the technology support service most valued by online students was the help desk service. University Information Technology recently combined its Customer Services, Information Services, and University Media Services departments to form Technology Services and Support. For times when online students may have been on campus, the Department, College, and University also maintained numerous computer labs.

University Student Support Services Outcomes

- *Orientations.* While general University orientation provided support that was used by all students, additional orientation services prepared online students specifically. Help with registration, career decisions, and course selection are examples of the services that were used by all students. Beyond these services, specific electronically delivered orientations enabled online students to get an early start with the tools and strategies for distance learning. Students learned how to access and use campus resources such as the bookstore, libraries, advising, learning support services, and course tools from a distance. Students reported deriving value from these services in terms of helping them learn to use vital campus attributes.

  At the course level, specific electronically delivered orientations provided roadmaps for students to succeed in classes. One instructor's use of a welcome letter to share course policies, procedures, and expectations was seen as a friendly way to start a learning relationship. Other students felt they benefitted from orientations provided in the form of PowerPoint or other visual presentations.

- *University student success and retention.* Numerous support programs to facilitate students' transition to and success in college were used. While, in general, tracking of outcomes was difficult, two of the support programs provided for regular, systematic feedback among students, faculty, and program advisors. Both the Urban Experience and Challenger programs yielded strong evidence of positive impacts on students through interim grade reports and mentoring sessions.

  Learning Support Services were found to support students by enhancing students' study skills, test-taking strategies, and learning style awareness. For specific content areas, such as Mexican

American studies, English writing, natural sciences, and mathematics, additional services were proffered.

- *General University support services.* Access for online students was facilitated for core University services. For example, the resources provided by University Career Services were popular, and, even in a tight job market, they yielded employment contacts and placements. Similarly, student use of the Center for Disabilities provided services and contacts with faculty that led to positive academic outcomes that would not otherwise have been possible.

   The University's Counseling and Psychological Services, while providing critical services, could not share student-use data regarding outcomes due to the personal nature and confidentiality of psychological services. Faculty supported students by providing referrals for these services when need was indicated or interest was expressed.

   A relatively recent University addition to the general services was Profs with Pride. Interested faculty members network with students through personal and electronic tools to encourage awareness and participation in campus events. For online students faculty used e-mails, links to campus updates, discussion board triggers and comments, and announcements posted to the course website to notify students of events and encourage school spirit. Event attendance showed that students used and valued this faculty-driven support system. An ancillary outcome of this service was that students not only learned about and attended events, but that attendance and communication fostered stronger connections including student–student, student–faculty, and student–campus relationships.

   More traditionally, providing bookstore, admissions, administrative, registration, finance, and other basic services for online students ensured that all students could effectively adhere to university processes, requirements, and deadlines. Out-of-state students and those in international locations relied on access to these services. Such capability, for example, allowed several U.S. military personnel to continue their education while serving in remote areas with Internet access provided by the armed services.

- *Scholarships and awards.* To support themselves financially, online students accessed websites that outlined scholarship and financial aid opportunities and application processes. The obvious outcome was that students were able to gain or retain capability to continue their studies.

- *Library resources.* Library services enabled students to electronically receive library materials. As an early participant in online student support, the library staff offered a well-developed selection of services that students used remotely.

- *Computer and technology help desks.* To meet the challenges of learning online, students made use of computing and technology help desks. Technical problems, while definitely unwanted, were a part of the student experience. Appropriately, the campus had designed a well-supported system of help desks to answer student's questions and service their needs. The help desk intercept logs and communications with course faculty showed that students needed and used these services to solve their technical problems.

Discussion and Applications

In the present study, the authors performed a review of the literature, which they used as a means of verifying whether student services were identified as a component of quality in online education. This indicated value for further study of student services. The authors, through their subsequent data collection, categorization, tabulation, and analysis, found that many services were needed and offered. Thus, review of the literature regarding frameworks for quality in online learning systems and the experience of this case, including systems developed and student outcomes, suggests that student support is a recognized and valued component of quality in online programs. Further, it appears important that support be pervasive through all aspects of student engagement in the learning process. Support services are needed at the course, department/college, and university levels. Additionally, it is imperative that accommodation be made to existing student support services to guarantee their accessibility for online students.

Analysis and reflection on the findings of this study lead the researchers to conclude that student support services play a valued and integral part in quality online educational delivery. Directed by the research

question "What types of student support services are needed and available to students?," the authors have found the methodological propositions to be confirmed.

Conclusion and The Future

Considerations of the future support needs for online students suggest that adaptations will be needed as students, faculty, and technology become more sophisticated with the supporting technologies and with the mode of instruction itself. Course design and emerging technology, as well as the instructional design imagined and created by faculty, will need to keep pace with increasing levels of sophistication. Students' expectations will expand through generalized exposure to greater technology in all aspects of life, including mobile information and communication technologies. Faculty training, development, and utilization must keep pace with and exceed that growth. Both students and faculty will have evolving needs.

While the needs of students and faculty change and evolve, so too, will the university environment. New technologies will emerge and become available to institutions of higher learning. The concept of "university" may also change, as more completely online institutions emerge. Competition from online-only programs may force changes in traditional universities and their support of students. Funding issues may both improve and present problems, based on new or expanded models of online education. For example, in Australia a lack of public funding has focused interest in online education as an alternate funding source (Gururajan, 2002).

Changes in online education will continue to stimulate changes in the roles of traditional student affairs and student services professionals as they adapt and develop services to meet evolving needs in conjunction with instructors, course designers, and personnel at all levels of the institution.

Traditionally, universities have played a primary role as caretakers of learning. In that context, as faculty continue to care about student learning, the view of support for students in online environments will continue to evolve, and it will require future investigation. Usun (2004), following review of online student support systems in Turkey, suggests that the institutions, not just the courses, must actually be designed or redesigned to enhance learner support. In sum, online education requires both the development of dedicated support services, specifically created for online students, as well as attention to or adaption of existing support to ensure access by online learners. The statement by Thompson and Hills (2005) is true: "Careful planning and adequate resourcing, especially long-term funding and staffing, are necessary to ensure the long-term viability of providing worthwhile learning support services" (p. 664). Similarly, Frieden (1999) states that "the creation and operation of a distance education support infrastructure requires the collaboration of virtually all administrative departments" (p. 48). The provision of these support services, in turn, contributes to overall quality as recognized by the inclusion of student support in the numerous frameworks and standards for online course and program quality.

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