Integrated Solutions to E-Learning Implementation: Models, Structures and Practices at Trinity Western University

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Abstract

Trinity Western University's development of an integrated and seamless online learning community, intersecting with the traditional face-to-face educational enterprise, has progressed rapidly since the creation of Global Learning Connections in 2002. The development of this perpetual learning infrastructure has necessitated the resolution of four key issues in online learning: ownership and control of online educational products; curricular quality and mission-compatibility of online educational products; service to and satisfaction of learners in the online educational realm; and enterprise-wide integration of online education at all levels of TWU as an evolving organization. Various models and approaches are presented with emphasis placed on the direction TWU has taken in preparation for lifelong education in the knowledge age.

Introduction

Online education has been characterized as a disruptive technology that will likely radically transform how, where, when, and what learning occurs in the knowledge age (Barone & Luker, 2000). The present paper will (a) document the rapid development of web-based distance education at Trinity Western University; (b) outline and explain the choices and strategies in the design and development of online education at TWU; and (c) elucidate the present and future facilitation and management model by which online education is distributed at TWU.

History of Online Education at TWU: The Emergence of Global Learning Connections (GLC)

Trinity Western University (TWU) is a unique Canadian Christian Liberal Arts university located in Langley, British Columbia, Canada. As the largest Christian institution of higher education in Canada, TWU is a full member of the Association of Universities and Colleges of Canada (AUCC), the premier association for institutional validation in Canada. In addition to high levels of scholarly recognition, TWU is committed to the advancement of Christian liberal arts education as evidenced by its active membership in the Coalition of Christian Colleges and Universities (CCCU). Consistent with its mission and purpose, TWU emphasizes whole person leadership development within a distinctly Christian academic community.

In terms of online educational development, TWU's history spans approximately seven years. Early attempts at online course development involved individual faculty members contracted by individual departments to develop, design, and deliver online education to learners using a

variety of non-integrated online learning platforms (i.e., MSN Messenger and Outlook, Blackboard, WebCT, Jenzabar LMS, eCollege, etc.) on a course by course basis with little institutional support for infrastructure or training. In the midst of this early and decidedly uncoordinated online venture, TWU launched it's first distributed MA in Leadership. The design of this program involves a one month on-campus residency during three consecutive summers with online course delivery at a distance between residencies. Whereas the face-to-face encounters between faculty and learners are viewed as highly successful, the distance (online) portion of this program suffered from many of the same challenges that have faced other institutions venturing into online delivery of education—lack of consistent quality of design and delivery for online courses, lack of consistent and coordinated facilitation of online learning experiences, and lack of fully integrated online learning-administrative database infrastructures. The online administrative model employed at TWU at that time was to provide faculty with stipends and some online learning resources and to allow the faculty member to choose how to design and deliver educational material in the online environment—what Bates (2000) calls the 'lone wolf' model. Unfortunately, as is common with this model, a minority of instructors were truly successful at making this solitary transition.

During this early phase of development in online learning, a mediated learning taskforce was commissioned to begin investigating the viability of fully implementing mediated learning at TWU. The white paper on Mediated Learning, completed by the taskforce in October of 1999, proposed the creation of a Global Mediated Learning Center (GMLC) where online courses would be designed, developed, and distributed. In the summer of 2000, the GMLC was created. Working closely with TWEST, TWU's continuing/adult education division, GMLC developed the beginnings of an online distributed education model. The early phases of this venture into online education, however, were hampered by the lack of a strong connection to the academic administration. In the fall of 2002, GMLC and TWEST merged to form a new and innovative academic unit. The choice of Global Learning Connections (GLC) as a name for this new unit was strategic to position the unit as the innovative learning center on campus given the responsibility for extending the mission of TWU globally and connecting to learners and organizations in new and non-traditional ways. The establishment of GLC spawned a new era in the design, development and delivery of online education at TWU. In addition, roles within GLC were re-defined to formalize the tie between this innovative and disruptive unit and the traditional academic infrastructure. An example of this re-definition was the change in the director designation to that of Assistant Dean. This change placed the leader of GLC formally into the 'Office of the Academic Vice President' (AVPO). The formalization of this critical role set the stage for a fully elaborated online educational model intricately tied to the academic engine of the university.

Implementing Online Learning at TWU

The creation of an environment for supporting global education at TWU can be divided into 4 distinct phases. Phase 1 details the initial development phase and the first key issue—ownership and control. Phase 2 details the second development phase revolving around the second key issue—academic quality. Phase 3 details the third developmental phase and the third key issue—facilitation and service to learners as reflective of the TWU mission. Phase 4 details the fourth phase (still in its infancy at TWU)—campus-wide integration of online education in a seamless multi-modal learning community.

Phase 1 - Ownership and Control

In The Innovator's Dilemma (2003), Clayton Christensen describes the challenges faced by

innovators functioning in traditional, sustaining enterprises. It is clear from Christensen's analysis, that the main challenges facing innovators do not revolve around the practicalities of the innovations themselves, but rather, around the barriers created by the sustaining culture of the traditional enterprise,

The innovator's task is to ensure that this innovation—the disruptive technology that doesn't make sense [to the sustaining organization]—is taken seriously within the company without putting at risk the needs of present customers who provide profit and growth (p. xxxi)

Online education, possibly characterized as a disruptive technology in education, has the potential to radically alter how education is delivered and perceived. Implementing online education within a sustaining enterprise (a traditional residential University) presents a unique set of challenges. Foremost among these challenges is the interface between current institutional practice (based on 40 years of traditional education) and future institutional practice (based on convergent models developed for the knowledge-age learner). Rowley and Sherman (2001) discuss the various types of educational institution that exist today and clearly document the barriers likely to be faced in preparing Universities for knowledge-age learners. Clearly, these challenges are insurmountable without a clear strategic direction from which to achieve defined institutional goals.

Although online education has developed at many traditional academic institutions over the past decade, GLC embarked on designing an e-Learning model premised on the ultimate goal of a seamless and integrated University emphasizing flexible access to education for all members. Our research revealed four categories of models of e-Learning integration existing in both public (not-for-profit) and private (for profit) educational enterprises (insomuch as such institutions had traditional units predating online units). In model 1, the "independence or distance education" model, the online or distributed learning unit operates on the fringes of the academic enterprise. Typically in this model, a continuing education or extension operational unit runs a parallel division of the institution with little or no real connection to the traditional enterprise. In model 2, the "lone wolf" model (see Bates, 2000), individual faculty members are given exclusive control over the online creation and distribution of their educational materials. In model 3, the 'silo model', each department/school/faculty is given exclusive control over the design, development, and delivery of online learning. In this model, infrastructure costs become redundant and standardization of online educational materials is poorly controlled. In Model 4, the 'integration model', online learning infrastructure is placed at the core of the academic enterprise. This placement of the online learning enterprise at the core of academic administrative processes enables maximum quality and standardization of quality with minimal redundancy and cost. When the unit responsible for online learning is also given the latitude to research and experiment with new and innovative distribution models, the stage is set for a productive and rapidly evolving venture into online learning. Whereas most private, for-profit institutions have engaged some adaptation of Model 4 very successfully, most traditional institutions have adopted versions of models 1-3. Model 4 was chosen at TWU to be reflective of the community-based model of leadership development that supports the institution's mission. Models 1-3 were viewed as insufficient to enable the long-term goal of an integrated and seamless multi-modal learning organization. Although the academic administration has actively supported the incorporation of the integration model (model 4), some academic units attempt to function along various forms of models 1-3. The challenge facing the University over the long term is to maintain this integrated focus across the academic enterprise.

After establishing a centralized and collaborative model for design, development, and delivery of online educational content, we embarked on the development of an appropriate intellectual

property/copyright arrangement with faculty. Understanding intellectual property/ copyright in the production of collaboratively-developed, digitized educational materials led us to the conclusion that no one does, or can, own an online course (see Twigg, 2000 for an elaboration of this view). Although instructors can own their personally-developed educational materials and content, instructors have no ownership rights to a course (be it online or otherwise). Stakeholders in ownership of an online course include: (a) the learner--who contributes to online discussions and facilitates his or her own and other people's (including the instructor's) learning; (b) the instructor and department – who contribute educational material, personal and professional insight, learning facilitation, and course credit/articulation standards; (c) GLC – developing the rich media product, maintaining the learning infrastructure, and facilitating the online educational experience both for learners and instructors; and (d) TWU – who enrolls learners in, creates and financially sustains the infrastructure for, manages finance for, and grants credit for, online courses.

Given the conclusion that 'no one does or can own an online course' GLC developed an educational materials development contract reflecting the unique educational contributions of our content experts in the production of educational material for digital distribution. The educational materials development contract specifies the course content expert and institutional roles and uses of educational materials developed for online distribution. The key elements of this contract relate to the distribution of ownership rights (the faculty member retains ownership of the educational materials but provides the University with a right to use the educational materials for a prescribed period of time); liability (the faculty member is liable for the material he or she owns under the contract institution is liable for infrastructure upon which material is placed); the potential uses of the educational materials in the future; and credit (acknowledgement of faculty and institutional credit for jointly derived digital materials). Although we have attempted to resolve the issue of ownership and control in a fair and reasonable manner, some skepticism remains as to the viability of this ownership distribution model within the traditional academic environment. Nonetheless, the adequate resolution of this issue allowed eCourse development to move from one of ownership/control, to one of educational quality.

Phase 2 - Quality and Maintenance of Quality

Prior to GLC involvement in online learning, product quality in the online educational spectrum at TWU was wide. In order to establish the internet as a viable and valuable learning environment, GLC embarked on the creation of an eCourse manual to prescribe how online educational products should be developed for dissemination. The goal of the eCourse manual was threefold; first, to guide novice online instructors as to how online educational products (courses, or asynchronous learning units) should be developed, second, to prescribe baseline design and delivery standards for eCourses (although some instructors choose to deviate from the manual while ensuring the quality of learner educational experience); and third, to give faculty members confidence both in their own ability to design effective learning resources for the online environment and in GLCs ability to service both faculty and learners in the online learning quest. Relying on research emphasizing collaborative, interactive, structured, and hierarchically organized courses as best for online dissemination (see Bates, 2000, Hiltz, 2001, Palloff, & Pratt, 2000, 2002, Piskurich, 2000) the eCourse manual provides a clear and prescriptive framework for online educational development.

In order to give instructors confidence in the eCourse design prescribed in the manual, the underpinnings of human memory processes are provided as a foundation emphasizing: (a) depth of learning processes (Craik & Lockhart, 1972); (b) state-dependent memory and recall (Tulving & Thompson, 1973); (c) repetition of learning material in multiple modalities (Reed, 2000); (d)

taxonomic necessities for memory cuing within a logically ordered hierarchical learning structures (Reed, 2002); (e) context specific constructions of memory inputs including transfer appropriate processing [Specifically, problem-oriented acquisition produces better learning than fact-oriented acquisition (Reed, 2000)]; and (f) the use of pedagogical principles of learning--individual's relative zone of proximal development using intersubjectivity, laddering of material, and scaffolding from teacher to learner (Vygotsky, 1978). In summary, eminent memory researchers Craik and Tulving (1975) explain the human information acquisition process as follows,

It is abundantly clear that what determines the level of recall or recognition…is not intention to learn, the amount of effort involved, the difficulty of the orienting task, the amount of time spent making judgments about the items, or even the amount of rehearsal the items receive; rather it is the qualitative nature of the task, the kind of operations carried out on the items, that determines retention (as quoted in Reed, 2000).

The culmination of relevant factors in the human learning processes is the following design objective, specifying the best learning in the online learning environment, in the eCourse manual:

Learning opportunities in the online environment should emphasize deep processing of information, multi-modal learning elements, problem-solving (testing of learning) experiences, and learning through personal experimentation and exploration. Teaching in the online environment should be repetitive, hierarchically organized, and constructive (should build upon prior learning) in nature. (Laird, 2003, p. 22)

Elaborating on the cognitive requisites for deep learning, the eCourse manual outlines four possible applications for designing learning opportunities for the online environment as described by Shank and Cleary (1995): (a) simulation-based learning by doing involves learning through action; (b) incidental learning; (c) learning by reflection; and (d) case-based teaching.

Whereas most texts on online learning explain why online learning is effective and prescribe how online learning might take place in an ideal learning environment, the eCourse manual goes a critical step further (especially for the novice online educator) by providing detailed and specific instructions for how faculty members should organize their educational materials to produce the best outcomes for learning in the online environment. "In contrast to face-to-face learning environments, eCourses are characterized by learner to instructor distance (spatial distance, temporal distance, relational distance)" (Laird, 2003, p. 27). The goal of developing clear and prescriptive requirements for eCourse design at TWU is both to help faculty compare and contrast teaching in the online and face-to-face environment and to highlight intentional strategies to minimize the instructor to learner distance such that distance between relevant players does not serve to distance learners from the learning process.

The 'Pedagogy in Practice' section of the eCourse manual focuses the instructor on the elucidating 6 critical elements in the design on online learning. The goal of the design principles is to make faculty members intentional about their achievement of educational goals in the online arena. The first element in the ecourse manual details the structure by which online courses are constructed. In contrast to the traditional classroom which is orchestrated on a class by class basis by the instructor, in the online environment, learners are exposed to the entire course at the outset. It is much more difficult to change the structure of teaching in the online environment than in the face-to-face environment. It is critical, therefore, that the eCourse structure reflect not only the course requirements, but also that the eCourse design is compatible with the chosen learning platform (presently, GLC has chosen a community-source model utilizing eEducation).

The hierarchical structure of the course should be clearly labeled and cued to the learner so that he or she can progress through the course with minimal confusion about how the learning units tie together (Ko & Rossen, 2001). In the online environment, a hierarchical yet webbed structure for learning is necessary to allow webbed tools to be constantly accessible in a hierarchical/laddered learning structure.

The second element in the eCourse manual specifies the outcomes and layers of outcomes for each unit and module. Learner-centered instruction in the online environment revolves around the articulation, and accomplishment, of clearly elucidated learning outcomes. Whereas orchestration of learning outcomes can be co-ordinated lecture by lecture in the face-to-face learning environment, clear outcomes that layer and intersect throughout the eCourse are necessary in the initial design of online courses. In order for online learning to be effective, learners must know why the course is important for their overall learning, how each outcome is related to each learning element, how each outcome is related to each other (layering of outcomes), what precise actions or cognitions on the part of the learners will allow the learner to attain each outcome, how each learner will know when they have met the precise requirements necessary for the accomplishment of each outcome, and when the learner has acquired sufficient knowledge to move to the next outcome. The eCourse manual prescribes that at least one outcome be articulated for each unit and module within each course. In addition, higher order outcomes for the courses themselves must be communicated from the instructor to the learner.

The third element necessitates the instructors' clear articulation of a motivational strategy for online learning. One of the essential hurdles to overcome in transitioning competent and mission-focused educators to the benefits of online learning is to convince them that online learning is not 'learning in a box'. The goal of online exercises and learning activities (forum discussions, case reviews, etc.) is to send the learner into the world outside the internet for experimentation, data gathering, and personal interaction. The online environment therefore becomes the center for co-ordination and exchange of information. This means that effective online learning does not solely revolve around the re-creation of lecture-based instruction. Online education, rather, involves motivating learners to effectively seek out experiences that cause them to reflect on themselves, the subject at hand, and the integration of their worldview, their personal growth, and the course material. The eCourse manual prescribes that eCourse designers develop a specific strategy for motivating learners to engage the course material in a reflective and integrative manner. The following instruction to course content teams specifies the range of motivating options available, "Content teams can choose to motivate students in the quest for learning by creating games or simulations, having real-life problems or case studies that learners must solve, using eFieldtrips and online discussions of such trips, creating eScavenger hunts, or using digital music or video to capture the learners attention." (Laird, 2003, p. 42)

The fourth element in the eCourse manual specifies the interaction strategy to be implemented in the course. Olcott (1999) notes the five I's of online education as interaction, introspection, innovation, integration, and information. Interaction is the first of the I's listed by Olcott because it is the critical element from which the other I's flow. The eCourse manual specifies that three types of interaction must be clearly articulated in the course content template as constructed by the course content team—learner-learner interaction, learner-instructor interaction, and learner-content interaction (Laird, 2003). Prescriptions for each type of interaction are that the interaction must be scheduled at regular intervals, interesting and diverse, part of the overall course grade. Types of interactive exercises are: break the ice session, construction of learning teams, eInterviews, eDebates, case study or problem solving sessions, personal learning journal development.

Given the need for real-life experiences to take online education 'out of the box', the fifth element requires the instructor to describe flexible and experiential assignment strategies. One of the main advantages of online learning is that written assessment can be woven flexibly throughout the course. One of the main goals of Global Learning Connections, as a part of Trinity Western University is to provide learners with flexible access, flexible delivery, and flexible service to education. Given this overall framework, eCourses at TWU focus on maximizing learner choice and flexibility to maximize the likelihood of overall learner satisfaction and success. The nature of assignments is prescribed as follows:

1. Assignments must focus on synthesizing and integrating of academic material with student experience rather than the regurgitation of course material in written format. There must be an experiential (personal/reflective, interview, critical analysis, etc.) aspect to at least one of each of the modular assignments.
2. Understanding and working in the world wide web is a skill-based learning requirement that must be incorporated into each online course. At least one assignment per module must involve web-based research .
3. Learners must be required to engage at least one research-based (either Library or News related) assignment in each module. (Laird, 2003, p. 53).

The final element in the eCourse manual presses the instructor to articulate a Christian integration strategy for the course. At Trinity Western University, integration of personal worldview and learning is not only an accepted goal, it is a prescription for all teaching and learning, both inside the classroom and in the university community outside the classroom. We are not only committed to integration of faith into learning and experience, we also train faculty specifically in how to integrate faith into learning and teaching. In the classroom, whereas some integration of faith intentionally occurs via curricular delivery, other faith integration occurs as instructors seek to mentor learners and exemplify Christ-centered lifestyles directly to learners. In the online learning environment, integration of faith and learning must seek to more intentionally incorporate faith into learning in a systematic way at the course design phase. Integration of faith in learning can happen at the curricular delivery level, the forum discussion level, the assignment creation level, at the learning activity level, and at the personal reflection level (as via the creation of Personal Learning Journals documenting spiritual development though the course experience).

In conclusion, the development of a clear and concise eCourse manual addressed the second developmental phase in the establishment of an online learning environment at TWU. The eCourse manual served to articulate not simply a set of online learning best practices, it went further to establish a set of online learning best practices specifically focused on the learning in Christian community under the mission and direction of Trinity Western University. This manual therefore went further than any book or article on online education in that the manual is specific to the TWU context and the development of an online education model complementary to our unique context.

Phase 3 - Services and Learner Satisfaction

Developing online education is ineffective if we cannot help students and faculty transition learning from the traditional to the online learning environment. One of the critical mistakes we initially made in venturing into the online learning realm was to presuppose that the support structures related to on-campus, traditional learning access, delivery, and support would directly apply to the online environment. One of the key successes of GLC has been the development of an extensive and integrated support structure for online learning. The support structure itself we

have called facilitation (although the term facilitation is applied differently in other online learning communities). At the core of facilitation is to treat all persons—faculty, learners, and staff—as equal partners in the learning experience. Many online facilitation models, revolve solely around technical support for learners. Our facilitation model, however, goes far beyond technical support. The facilitator must function as the "legs" of the student on campus.

The goal of facilitation is to connect the learner to the course content, instructional objectives, personal learning outcomes, campus resources, and campus services in a manner that appears seamless and integrated to the learner. Good facilitation is always present but never noticed. (Laird & Thibaedeau, 2003)

Although we are constantly looking for new ways to enhance the facilitation of online learning, we are satisfied by the fact that 90-95% of our learners successfully complete their online courses. As we seek to continually evaluate and refine our facilitation processes, one factor must not change—the learner must be placed at the center of the learning experience. Success in achieving our educational goals cannot be understood or measured independent of the transformational impact of education in the lives of our learners (Mantyla, 1999).

Developing a learner-centered service model for the facilitation of online learning at TWU necessitated the full elucidation of two key levels of service: Structure and Process. The starting point for effective facilitation is the seamless integration of the online learning structure such that all concerns can be addressed through one person. What this means is that the facilitator serves not only as a technical resource, but also as an enrollment, course payment, learning elements and requirements resource. Essentially, the facilitator is to function as the connection point between the online learner and the campus infrastructure. Whether it's a fee payment issue or an assignment submission issue, the facilitator is entrusted to intervene on behalf of the distance learner to ensure that his or her needs are addressed. The facilitator, therefore, must understand how the campus infrastructure is 'wired' so that he or she can access all campus services to meet the needs of the online learner.

Most of one's productivity stems from the way in which work is organized—the structure. It is therefore imperative that the structure for online learning—from learning platform to course design and delivery, to communication between team members, faculty and learners—is highly prescriptive and yet flexible and adaptive to change. The fundamental problem in many other online learning systems is that the structural layers and individuals monitoring those layers is so specialized that it is difficult to integrate solutions at any one structural layer and it is difficult for one layer to inform other layers of structural inadequacies. In addition, each structural layer carries heavy costs in infrastructure and/or personnel. The cost of implementation at each structural layer creates barriers to integration across layers and evolution of that layer as external forces exert pressure on the structural aspects of the online learning system. Rather than seeking macro-solutions to produce long term structural benefits to the system, those operating at individual structural layers will seek solutions within their area of expertise and control—the structural layer at which they operate. Such solutions often serve to exacerbate entrenchment of the inadequacies of that structural layer at increased cost to the system. In order to minimize such structural barriers to facilitating the learning experiences of our students, we made a number of strategic choices: (a) to move from a proprietary to an open source (community source) online learning platform which allowed GLC to not only control the content derivation, but to also control the infrastructure upon which the content was developed. In this way, GLC could code additional structural pieces to aid in the development of online learning on campus (in addition, this move enabled to progression of online learning into the development of online community—phase 4—as a new innovation for online education); (b) to house the servers for our

online learning system off-campus which allowed online learning to focus on access to distance learners rather than campus security of core mission critical data. The dilemma between security and access must be balanced for online learning to be successful at traditional institutions; (c) to work toward cross-training GLC staff in all aspects of eCourse design, construction, and facilitation; and (d) to seek new solutions to issues and problems proactively via weekly staff meetings and regular innovation sessions where ideas are exchanged across all members of the GLC staff.

With respect to process, eCourse facilitators are transition specialists. Facilitators enable a number of transitions: (a) Transitioning of course content via the adaptation of existing content (scanning, digitizing, HTML coding, acrobat transitions). In addition, facilitators coordinate the development of new content (enforcing the eCourse manual structure where possible, working with faculty on course design principles, working with faculty to create rich and experiential learning experiences); (b) Transitioning of learning strategies by facilitating online discussions where applicable, by effectively communicating with learners and instructors using email, phone, course announcements, fast feedback loops—questionnaires, etc., and by encouraging a one-stop-shop for all online learning inquiries; and (c) Transitioning of instructors and students by educating others to the roles and requirements involved in online learning. This training of faculty and learners, communication via website and newsletter, full service support via email (same day service guaranteed) and phone support involving local and 1-800 (worldwide) service from 7:45 AM – 9:00PM Monday-Saturday (we currently service learners in 13 countries around the world and the number service access points is expanding annually). Future transitions will involve the integration of learning and other online activities as our eCommunity moves from beta testing to live usage (see Phase 4 for a description of our eCommunity).

Phase 4 - The Online Learning Community. In the fall of 2003, GLC made its first inroad into Phase 4 of online education—elucidation of a seamless, integrated virtual/face-to-face community. The goal of phase 4 is the establishment of parallel integrated structures for facilitation of learning online and face-to-face education. The fourth phase is not only ambitious for a small Christian Liberal Arts University, it is, what we believe, the next wave of web-integrated learning opportunities—a multi-modal learning environment high on experiential, experimental, personal integration of learning in a multitude of intersecting environments. This fourth phase is being actualized via 3 main activities. The first activity involved coding software to integrate TWU's administrative backend with TWU's online learning community. This first activity is not necessarily new, as many enterprise-wide solutions to online learning have advanced their ability to integrate solutions, the difference at TWU is that we have coded the integration on-campus as opposed to utilizing off-the-shelf third-party online learning platforms. We, therefore, have control not only over the nature of the interface, but also over the nature of its future evolution. This control is not only convenient, we see it as essential to ensure that the technology does not dictate the methods and processes by which educational goals are achieved. Clearly the educational and mission-related goals must drive the use of technology and not vice versa. This integration enabled the creation of a campus-wide structure for the virtual campus shell at every level of instruction on campus. The second critical activity in developing the integrated web-structure for campus involves the creation of new online learning activities premised on the integration of online and face-to-face core educational elements. Examples of these integrated learning opportunities range from weekend university, mixed-modal classes, modularized classes with web enhancement, video over IP distribution of educational material, and use of online infrastructure for directed study and web enhanced on-campus classes. The third, and most innovative activity established for the full integration of TWU's learning community is the creation of community-based, grass roots exchange of information in a web infrastructure. Clearly much of the learning at a University happens outside the classroom. The

community site is designed as a personal interactive interface from which various community members can interact in the virtual campus. This community building infrastructure is not, however, simply a portal through which to push institutional messages to learners. The site allows the end-user to customize his or her web activities and interactions around interests, goals, and relationships. This application allows present students, future students, past students (alumni), faculty, staff and parents to be involved in generating a diverse and active "life-long" learning community. The application goes further in allowing for communication with other learning partners and educational institutions. MyTWU (the temporary name given the application for TWU purposes) was launched on January 12, 2004. Since then, MyTWU has grown to over 3600 active users (our student population is around 3500). Of these 3600 users, about 800 currently use the system weekly to communicate and interact with people. The network of MyTWU connections is growing and is currently worldwide. Emphasizing our commitment to integrated learning at TWU, the MyTWU system (built upon the LAMP—Linux, Apache, MySQL, php—programming infrastructure) was utilized by our software engineering class on campus as the 'sandbox' for their class project. The 'worldmap' feature of MyTWU produced from this class allows community members to find friends, colleagues, and fellow alumni within our community wherever they are in the world. Code releases within MyTWU allow members who understand PHP to modify the code of portions of the community system and to submit code changes for release in new versions. Emphasizing our distinctiveness as an academic community of learners, we are all engaged in the development of new and exciting learning opportunities for the knowledge age.

Although TWU has made great strides in the development of an online learning system over the past 2 years, there remain many issues to be tackled if Phase 4 is to be fully actualized. Central among those issues is addressing administrative issues around servicing all learners regardless of designation and access point. The intersection of innovative and traditional service-needs and practices involves breaking down and challenging traditional educational assumptions. We need to constantly ask the question 'why' in evaluating all aspects of how we currently interface with learners. We also need to create constituent-based fast feedback loops whereby we can make incremental changes to our processes and systems while maintaining the integrity of the whole (Godin, 2003). The web environment changes too rapidly to become entrenched in processes and systems that did not evolve to support a web-based educational environment. Academic learning communities need to seek out new and innovative ways to attract, retain, and impact learners in the knowledge age. Only when we are prepared to address key issues of integration of campus and virtual communities can we be truly successful in achieving our vision of a global community of lifelong learners.

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