Developing a Graduate Level Online Program: One University's Move to Offering an Online Teaching Certificate for Teachers, Instructors and Trainers

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Abstract

The importance of online delivery of courses and programs in higher education has reached the critical juncture in colleges, professional training centers, and public schools. These institutions are now competing for the same group of students in the distance market and have similar challenges. To stay competitive, online teachers will need to have the expertise to teach effectively in this online learning environment. Our goal at our private university was to develop a model with our faculty team that would provide comprehensive and individualized instruction for aspiring teachers, instructors, and trainers. It was thru the cooperative efforts of our faculty team sharing expertise in online delivery and developing methods aligned with their content areas that guided our model to fruition. This paper chronicles an action research model that was employed to develop a graduate online teaching certificate for Pre K-12, higher education, and training and development instructors.

Keywords: Distance Teaching, Online Training, Teaching Certificate, K-12 distance learning, Higher Education online training, Online Teaching and Learning

Introduction

Today there has been a shift in education from the more traditional face to face delivery of the classroom course to online courses in higher education and, with the emergence of virtual schools, this online delivery of courses should become common at the K-12 level (Clark, 2001) as well as an integral part of higher education and training and development. Online programs have become more the norm and have the potential to even surpass traditional on-ground courses in various programs in the future. However, the continued growth of online programs may very well depend not only on the quality of the courses being offered, but also the preparation of the online teachers who will be teaching these courses using this delivery system. Kearsley and Blomeyer (2004) described some of the conditions of online teaching that should be considered prior to program development. These included the following: *requirements for teaching, preconditions for online teaching, competencies needed for online teachers, reasons to teach online, online teaching strategies, online teaching effectiveness, workload, need for support, completion of online training, choices about technology use, development of online teaching materials, certification,* and *the need for further research*. Hence, the purpose of this paper is to provide a chronology of events and supportive research of one private university's move to create an online teaching certificate that would both address and expand on the conditions established by Kearsley and Blomeyer in their insightful article on this preparation of online instructors.

To begin, at our university online programs are mainly in the infancy stage with growth occurring within the last two years. Nursing, business, education, information systems and communications are the primary programs; however, we will limit our focus to the School of Education which has begun offering an online master's degree in Instructional Leadership along with numerous courses within the teacher certification program. Many of our aspiring young teachers are considering placements in cyber schools as well as school systems that are beginning to explore the integration of online options and have demonstrated a strong interest in being effective online teachers. In fact, we have fielded a number of outside inquiries as to the availability of an online teaching certificate at our institution with the added advantage of many of these from a student pool outside of our normal recruitment area.

Current research reported from the Sloan-C Consortium (2013) indicated that more than 6.7 million, or roughly a third, of all students enrolled in postsecondary education took an online course for credit in fall 2011, In their article, *The Future of Online Teaching and Learning*, Kim and Bonk (2006) noted that the most important skills for online instructors during the next few years will be how to moderate or facilitate learning and how to develop or plan for high-quality online courses (Table 2, p.9). Given market demands and current research on online programs and the need for qualified, highly skilled online instructors, it was decided to embark on this mission to create an online teaching certificate program that would arguably prepare preK-12, higher education and training and development instructors for becoming highly competent and competitive online teachers and trainers in a constructivist teaching/learning environment. It was initially noted that while some technical education is provided in pre-service teacher preparation programs, the nature of online teaching is generally not part of the lexicon of training in many programs. However at the time of this study, dialogue had begun with Pennsylvania officials providing anticipation that the competencies addressed in this program could serve as a model for delivery and could at the very least provide an endorsement of knowledge and skills.

Background

There is a growing demand for the ability to teach online. Historically within several areas of education and training, teachers have chosen to teach in the online arena voluntarily seeing the inherent value to the pedagogical advantages. It seems that in the present there is an increasing number of educational institutions both in higher education and in Pre K-12 that are requiring teachers to teach online in full asynchronous and synchronous modes at times using blended or hybrid learning situations (Hampel & Stickler, 2005). Given the increasing number of educators and systems moving to online learning it is crucial that an effective training system is in place to prepare them for this instructional role. Alongside the process of skills development there needs to be substantial work on developing pedagogical understanding of the affordances of the online medium and acceptance of the transformation required in how teachers perform their role (Comas-Quinn, 2011, p. 220). Kirkwood and Price found that in many cases training was designed to teach how to use the online tools but not why they should use them (2005). Teaching new online teachers the technology alone is not enough to sustain the pedagogical understanding that is needed to effectively teach in an asynchronous, synchronous or blended learning environment. Teachers need to realize that online teaching still requires a teacher to teach. This requires a change in thinking and the mental models associated with online design and instruction. Teachers' willingness to change is powerfully influenced by learners' expectations and traditional ideas shared by teachers and learners about what learning is and what their respective roles in the process are (Comas-Quinn, 2011).

Using synchronous and asynchronous tools to support learning demands is not just technical mastery of a suite of tools, but a re-conceptualizing of the roles of both teacher and learner, and of how they co-construct understanding through synchronous and asynchronous online interaction (Comas-Quinn, 2011).

It is essential that teachers begin to understand that their role in teaching online is not just understanding the technology but in how to approach learning needs through a variety of pedagogical opportunities that exist in the asynchronous and synchronous learning milieu.

Online Instructor Roles

In approaching the design of a graduate level online teaching program it behooves the researchers to understand the role of the online instructor. Research over the past 25 years has focused on defining these roles which in essence can lead to a deeper understanding of the competencies necessary to assist instructors. Many studies on defining online teacher roles and competencies follow a 'technical view of teaching,' which 'tends to focus on the primacy of knowledge and value transmission rather than a broader sense of education' (Rennert-Ariev, 2008, p. 113).

Anderson, Rourke, Garrison, & Archer (2001) suggested three categories for online teachers' roles to ensure teaching presence: instructional design and organization, facilitating discourse, and direct instruction. Teaching presence is defined as 'the design, facilitation, and direct instruction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes' (Anderson et al., 2001, p. 5). Research has found that teaching presence is a significant predictor of students' perceptions of learning, satisfaction, and sense of community (Gorsky & Blau, 2009; LaPointe & Gunawardena, 2004; Russo & Benson, 2005). Goodyear et al. (2001) see the main roles of online teachers as: process facilitator, advisor/counselor, assessor, researcher, content facilitator, technologist, designer, and manager/administrator (Goodyear et al., 2001). Aydin (2005) identified additional roles, as content expert, instructional designer, and materials producer. More recent research (e.g., Bawane & Spector, 2009) clarified the following online teacher roles emerging from the literature: professional, pedagogical, social, evaluator, administrator, technologist, advisor/counselor, and researcher with the pedagogical role seen as the highest ranked role.

As online students are generally more self-directed, the expectation is to take greater control of their own learning processes and be more active in stimulating their peers' learning and facilitation of online learning emerges as an important role in directing these student-centered approaches. Moreover, as the hierarchy in the online environment is flattened with more distributed power and control (Schrum & Hong, 2002), online teachers are expected to adopt more facilitative approaches in creating learner-centered online classrooms (Salmon, 2004; Smith, 2005) not so dissimilar to the current roles of teachers in the face to face arena. In this online setting the teacher moves from being at the center of the interaction or the source of information to the 'guide on the side, (a phrase which is pervasive throughout the literature) implying that teachers design, organize, and schedule activities requiring learners to assume greater responsibility for their learning through coordinating and regulating their learning activities (Garrison et al., 2001; Berge, 2009).

It can be concluded that from the amalgamation of ideas that online teachers and instructors must possess a wide array of knowledge, skills and abilities ranging from online technical support, pedagogical instructional designer, social and learner facilitator, and course manager/administrator each of which may be employed dependent upon the differing roles that online instructors contextually find themselves. Different levels of design, teacher facilitation and technician skills may need to be employed depending upon the circumstances including learning situation whether PreK-12, higher education or training and development and the type of institution that may provide differing levels of pedagogical, administrative and technical support. The necessity to understand this diverse set of knowledge and skill becomes inherent upon an institution that provides such initial online teacher training and education. Each of these are culturally and contextually based hence the need to design a program that allows the learner to extrapolate competencies to their own setting.

K-12 Education Need for Online Training

The U.S. Department of Education's National Center for Educational Statistics (Queen, Lewis and Coopersmith, 2011) in a recent national survey report found that 55 % of public school districts reported having students enrolled in distance education courses in 2009–10. Among those districts, 96 % reported having students enrolled in distance education courses at the high school level, 19 % at the middle or junior high school level, 6 % at the elementary school level. 55% of districts surveyed reported that online courses were delivered by a postsecondary institution while others reported utilizing independent vendors (47 %) or virtual school in their state (33 %). 75% of districts reported that all distance education courses were developed outside of their district and their faculty.

Districts reported that the types of distance education courses in which students enrolled were credit recovery (62 %), dual enrollment (47 %), advanced placement (29 %), career and technical education (27 %), and other types of academic courses (65 %). 59% of districts reported using asynchronous instruction via the Internet to a large extent suggesting this as the main delivery mode for distance education courses. Interesting , 74 % of the districts with distance education enrollments in 2009–10 indicated that they planned to expand the number of distance education courses offered in the next 3 years.

Higher Education Need for Online Training

In a national survey (sponsored through the Sloan-C Foundation) of more than 2,500 colleges and universities Allan and Seaman (2010) found that sixty-three % of all reporting institutions said that online learning was a critical part of their institution's long term strategy, a small increase from fifty-nine % in 2009.

The survey also found that online enrollments have continued to grow at rates far in excess of the total higher education student population, with the most recent data demonstrating continued substantial growth. This can be substantiated by the following:

- Over 5.6 million students were taking at least one online course during the fall 2009 term; an increase of nearly one million students over the number reported the previous year.
- The twenty-one % growth rate for online enrollments far exceeds the less than 2% growth of the overall higher education student population.
- Nearly thirty per cent of higher education students now take at least one course online. Academic leaders at all types of institutions report that the impact of the economy is even greater this year than last – with increased demand for both face-to-face and online courses. In all cases the increase in demand for online is greater than that for the corresponding face-to-face offerings.
- Three-quarters of institutions report that the economic downturn has increased demand for online courses and programs.
- There is no compelling evidence that the continued robust growth in online enrollments is at its end. There are some signs, albeit slight, that there may be some clouds on the horizon.
- A majority of institutions continue to report that there is increasing competition for online students.
- Public institutions report more pressure from the for-profit sector than do the private nonprofit institutions.
- Reported year-to-year enrollment changes for fully online programs by discipline show most growing, but with a sizable portion seeing steady enrollments.
- Virtually all recent growth in online enrollments has come from the growth of existing offerings, not from institutions new to online starting new programs.

One of the areas that higher education has been monitoring is in the area of MOOCs and their impact on the online learning. MOOCs by definition are a platform for distributing online content to learners desirous of learning. These are generally offered with open enrollment with no limit on enrollment. Allan and Seaman (2013) found that only 2.6 percent report they currently offer MOOCs and slightly less than ten percent (9.4%) have plans to offer them. An additional one-third of all institutions report they have no plans for adding MOOCs (32.7%), leaving the bulk of all institutions (55.4%) still undecided. It is then anticipated that while MOOCs will continue to serve as a resource for education and training, their overall impact on distance education will remain static.

With the increased demand for K-12 schools and higher education to actively engage in online teaching, there is a need for a program of study that instructs teachers how to properly develop, teach and assess students in the online environment. The overwhelming evidence of growth and reliance on distance education and online teaching has created an apparent need for initial and continued faculty development, training and education in how to properly develop and teach online courses. The inclusion of the Online Teaching Certification program for K-12, Higher Education and training and development will assist in credentialing online instructors to authenticate and communicate knowledge, skills and abilities in the areas of synchronous and asynchronous distance education.

Corporate Training and Development Need for Online

It has been well documented that successful corporations support life-long learning. It is a cost effective measure and a necessary part to remain competitive in the market. For these reasons, we, as a faculty, wanted to address the corporate training and development area. Pedagogy as it relates to corporate training shares many of the same components of teaching in higher education and public school teaching. The major difference is in assessment. In higher education and PreK-12, assessment is focused more on the initial outcomes from testing and project development. In the training and development arena the focus is more on second and third order outcomes (Grotelueschen, 1980) and the more crucial transfer of knowledge and skills to the workplace and their subsequent impact to the organization in operation, productivity and fiscal influence. The skill sets in teaching may be similar but the competencies needed may vary. Since some of our faculty team have worked and presently work in this corporate and professional training arena, planning for this group was not difficult.

Methodology

This study utilized an action research model over the course of 2½ years of program development that included a year of data gathering and proposal development through a committee of interested faculty members and online course development and program execution over a year and a half. Elliot defines action research as the study of a social situation with a view to improving the equality of action within it (1991). Action research is a form of collective, self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices (Kemmis & McTaggart, 1988). Reason & Bradbury see it as a participatory, democratic process concerned with developing practical knowledge in the pursuit of worthwhile human purpose grounded in a participatory world view (2001). As a form of examination intended to improve a teaching process using practiced knowledgeable faculty to observe practice, inquire among current practitioners and design and develop a program of study, action research served to provide an involved view during the development and execution of an online teaching certificate course of study.

The researchers used formative and summative processes of data gathering through a content analysis of activity logs maintained during both the preactive (planning) and active (teaching) phases of the program certificate. Interviews with teachers, administrative key informants and potential stakeholders were explored to gain a deeper understanding of program needs and potential outcomes of the program.

In approaching the ideals of developing an online graduate level teaching certificate a needs assessment was undertaken to understand the scope of the need for such education and training. It was revealed that online teaching and learning has become the fastest growing segment of higher education and is now becoming part of the focus for PreK-12 education. With the significant cut backs in state and federal budget monies coupled with the economic downturns over the past few years, school districts are looking for ways to keep students within the school district in order to retain budget monies. The total number of students taking part in all forms of online or distance education programs through virtual schools, or blended learning opportunities is unknown, but is likely several million, or slightly more than 5% of the total K-12 student population across the United States Watson, (Murin, Vashaw, Gemin and Rapp 2012, p.5).

To gain a deeper perspective, interviews with 8 teachers within the surrounding 5 county region were conducted. These interviews reflect an increase in the number of districts locally that are requesting their faculty to provide online content in either hybrid or fully asynchronous online formats. Additionally interviews were conducted with seven school administrators including superintendents, building principals and school board members also reflect this surge in online instructional offerings and the demand for teachers to become competent in teaching through a Course Management System (CMS) such as Blackboard, Moodle, Desire to Learn and others. The main impetus as discussed by both teachers and administrators appears to be budget controls. Depending upon the school system it was reported that a student choosing to leave the district and attend a cyber-charter school can account for anywhere between $9,000- $15,000 per student in budget monies per year being transferred from the district to an outside cyber charter school. Given the increased demand with continued growth in the area of asynchronous and synchronous online technology based education anticipated there is a need for instructor training in the areas of online curriculum development and teacher preparation.

Our Procedure

The procedure for developing and executing the first year of this online teaching certificate program was divided into two phases, the inquiry needs analysis/proposal phase and the actual course development and execution phase. A task force was developed of interested faculty with distance education expertise. It was important that we identify faculty within the school who were experienced in teaching online and who brought various technology savvy skills to the teacher online certificate program process. Fortunately, we had a cadre of professors who taught online and understood the technology, online curriculum design and the online pedagogies that are needed to successfully teach in the online environment. It was realized early on in the process that the certificate course of study would be a highly dynamic process requiring faculty to remain current to all technological and pedagogical changes that routinely occur within the technology driven online teaching and learning environment. It was also realized that each of the developed online courses would need to be updated each semester to reflect the new technologies and online pedagogical opportunities. Given these deductions faculty were chosen from the current faculty with the knowledge and skill to develop, teach and maintain courses in the online certificate program.

An original committee of 7 faculty members was included based upon their experience and expertise. In fact, three of the seven faculty had conducted research in online and distance education authoring several articles and speaking at a number of international, national and regional distance education conferences. Two had authored textbooks in the areas of online distance education and online curriculum design. All had taught online and developed online curriculum with experience ranging from 6 to 16 years each familiar with at least two different CMS. Four of the faculty had taught online at several different universities. Two of the faculty have consulted for different organizations and universities in teaching online. Each of the faculty brought different levels of expertise in specific areas of online teaching, curriculum development, instructional technology, educational assessment and online assessment opportunities and current trends and issues in online teaching and curriculum development.

With this level of expertise coupled with current research and resources it was felt that the group could adequately develop the inquiry and needs analysis and develop the actual curriculum and online course pedagogies.

Findings

As previously noted, we looked at three areas: K-12, higher education, and corporate training and development. Although each area of content is vastly different, each shares various methods and approaches in delivery of online education. Secondly, as a committee, we held firm to the belief that we needed flexibility within content areas to meet participant needs. And finally, we felt that cross-sharing between various content, grade levels, and educational /training divisions would provide curricular, technological and pedagogical benefits.

K-12 Education and Higher Education Needs for Online Training

Online teaching and learning has become the fastest growing segment of higher education but is now becoming part of the focus for K-12 education. Online delivery has several advantages. Time, distance, convenience, and flexibility were just a few of the advantages of this delivery system. We also saw the economic advantages given travel expenses, parking, etc. as these would apply to higher education and professional education and training. For public schools, many face harsh state and federal budget cuts which would make new construction and remodeling less attractive. Again, for public schools, there is the ever increasing competition from charter and cyber schools that offer online programs.

Interviews with teachers:

One of the areas of need noted was in how PreK-12 was approaching online teaching and learning. As was reported by the teachers in this study, they were initially excited at the prospects of teaching online until they realized the level and volume of ***time commitment*** that online teaching required in both initial production of online materials and lessons and in the actual execution of teaching online. Subsequently many of the teachers interviewed for this stated that they had "backed off" the idea of teaching online in their districts. This was confirmed by the administrators interviewed for this action research study. They reported that teachers had become less than enthusiastic once they realized the time commitment to developing and teaching online. They reported that they had begun looking into online curriculum through publishers and other sources. The issue with this tactic as reported by both teachers and administrators is that the teachers then ***do not have ownership*** to the curriculum and hence their approach is more of letting the online do their teaching for them. From this the committee focused on the major difference in the approach to the online teaching certificate was that ***online still requires an instructor to teach and to develop materials and curriculum***. That is not to say that the plethora of resources available through the Internet is not of value. These same resources are used in the face to face by PreK-12 as well as higher education and training and development. The approach in the online is to know and understand how to integrate them in a meaningful, purposeful manner that generates student online interaction, engaging and helping online students to be active rather than passive learners. However, teaching online does not remove the need for the teacher to teach. Those things that make good teaching in the face to face arena are also of value in the online arena. The additional concern in online teaching and learning was in the area of ***assessment in both formative and summative***. The concern is to maintain the validity of assessment that is applied in a traditional setting. Those interviewed questioned the ability to properly assess student learning online.

Online Programs in Higher Education Need:

Interviews with 7 higher education faculty also yielded similar findings and results. Higher education faculty reported that the ***increased time factors*** in both the production and development of materials as well as the actual number of hours required in monitoring and teaching online was potentially detrimental to their desire to teach online.

They also reported not having all the ***technological knowledge and skills*** as well as a deeper understanding of the ***pedagogical opportunities*** that were available online. The higher education faculty also were skeptical of the ability to ***assess student learning online (in both summative and formative)***.

Corporate Training and Development Need for Online

It should also be noted that the majority of the program can also target the corporate training and development model. The major difference between the technology and pedagogies in K-12, higher education and the corporate training environment is in the area of assessment. Their focus is not on initial outcomes but in 2nd and 3rd order outcomes where the training is measured in the transfer of knowledge and skills to the workplace and the overall impact to the organization. These are measured differently than the outcomes of K-12 and higher education which are direct assessment of student learning.

The findings from interviews of both the PreK-12 teachers and administrators and the higher education faculty yielded not only the focus of need but the common threads and themes that emerged translated into a list of competencies that aligned and correlating with the iNALCOL and Nets standards (Table 2) and the Quality Matters template or design for online courses.

Identified Competencies: (Table 1)

Technical	**K-12**	**Higher Ed**	**Training**
CMS	**X**	**X**	**X**
Video conferencing	**X**	**X**	**X**
Video production	**X**	**X**	**X**
Social media	**X**	**X**	**X**
Multimedia	**X**	**X**	**X**
Audio projection	**X**	**X**	**X**
Mobile technologies	**X**	**X**	**X**
Learning objects	**X**	**X**	**X**
Pedagogical			
Cooperative Learning	**X**	**X**	**X**
Mastery learning	**X**	**X**	**X**
Discovery learning	**X**	**X**	**X**
Direct instruction	**X**	**X**	**X**
Behaviorist/cognitivist/constructivist	**X**	**X**	**X**
Projects	**X**	**X**	**X**
Academic			
Assessment/Evaluation			
Authentic/project based	**X**	**X**	
Formative	**X**	**X**	
Summative	**X**	**X**	
Testing	**X**	**X**	
Self-assessment	**X**	**X**	
Feedback	**X**	**X**	
Program evaluation	**X**	**X**	
Planning and Organizing (Instructional Management)			
Facilitating discussion boards	**X**	**X**	
Time zone	**X**	**X**	
Books and materials/Copyright Issues	**X**	**X**	
Academic integrity	**X**	**X**	
On-line legal and editorial checking	**X**	**X**	
Online Classroom Management	**X**	**X**	

Referenced lists of NETS and NACOL Standards (Table 2)

National Education Technology Standards (NETS) for Teachers (2008)
1. Facilitate and Inspire Student Learning and Creativity
Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments. Teachers:
a. promote, support, and model creative and innovative thinking and inventiveness
b. engage students in exploring real-world issues and solving authentic problems using digital tools and resources
c. promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning,
and creative processes
d. model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments
2. Design and Develop Digital-Age Learning Experiences and Assessments
Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S. Teachers:
a. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
b. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress
c. customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using
digital tools and resources
d. provide students with multiple and varied formative and summative assessments aligned with content and technology
standards and use resulting data to inform learning and teaching
3. Model Digital-Age Work and Learning
Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:
a. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations
b. collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation
c. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats
d. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning
4. Promote and Model Digital Citizenship and Responsibility
Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices. Teachers:
a. advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources
b. address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources
c. promote and model digital etiquette and responsible social interactions related to the use of technology and information
d. develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools
5. Engage in Professional Growth and Leadership
Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources. Teachers:
a. participate in local and global learning communities to explore creative applications of technology to improve student learning
b. exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others
c. evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning
d. contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

National Standards for Quality Online Teaching (iNACOL)	
A	The teacher meets the professional teaching standards established by a state-licensing agency or the teacher has academic credentials in the field in which he or she is teaching.
B	The teacher has the prerequisite technology skills to teach online.
C	The teacher plans, designs and incorporates strategies to encourage active learning, interaction, participation and collaboration in the online environment.
D	The teacher provides online leadership in a manner that promotes student success through regular feedback, prompt response and clear expectations.
E	The teacher models, guides and encourages legal, ethical, safe and healthy behavior related to technology use.
F	The teacher has experienced online learning from the perspective of a student.
G	The teacher understands and is responsive to students with special needs in the online classroom.
H	The teacher demonstrates competencies in creating and implementing assessments in online learning environments in ways that assure validity and reliability of instruments and procedures.
I	The teacher develops and delivers assessments, projects, and assignments that meet standards-based learning goals and assesses learning progress by measuring student achievement of learning goals.
J	The teacher demonstrates competencies in using data and findings from assessments and other data sources to modify instructional methods and content and to guide student learning.

Curricular/Course Structure and Delivery

Based upon the findings from the interviews from PreK-12 administrators and teachers and the higher education instructors as well as a review of the current standards presented and a review of all logs and data collected the researchers developed a course sequence model as presented in Figure 1. The certificate was built around a consecutive sequence of five (5) courses or fifteen (15) credits each prerequisite to the previous. This made the certificate program doable within a one year time frame and would provide students a fixed block scheduled sequence of courses within a cohort model.

The first two courses were designed to focus on the pedagogical and technological needs of the participants through a progressing sequence of pedagogy coupled with technology. This would utilize the "what can be done" as well as the "how to do it" approach. In reviewing other programmatic approaches much of the emphasis was either on theory or centered solely on learning the CMS platform software. This was felt to be a shortcoming and the needs from the research demonstrated that not only was there a need to understand the technology but the online pedagogy and the dynamics of teaching online. These first two courses provide additional competencies with narrated online lectures, online cooperative learning techniques, online debates, interactive assignments and activities, and both synchronous and asynchronous facilitation techniques. The courses as discussed couples the pedagogy with the technological skills and features of a CMS and how to facilitate online structures for effective online classroom management. The courses also discuss the use of blended learning techniques that enhance learning in higher education, training and development and Pre-K-12 settings.

It was also believed that as this program was going to instill both the knowledge and skills necessary to teach online that each of the students should have access to both a course shell where lessons would be taught by instructors modelling and interacting with content and a lab shell in which they could manipulate and develop online materials and interactive skills through a combination of synchronous and asynchronous methodologies.

Each of the lab shells would have the student listed as the instructor of that shell and the other participants would be enrolled as students allowing certain activities where, for example, participants could develop, implement and practice such interactive pedagogies as direct instruction, group activities or the facilitation of discussion boards among many other online instructional activities as mentioned above. This lab shell would be assigned and stay with the student throughout the 5 courses.

The third course would logically concentrate on formative and summative online assessment. This was felt to be one of the areas of confusion that exists in teaching and learning in the online distance format as was found through the Pre-K-12 and higher education interviews. The thread and question always arose about the ability to conduct authentic and valid evaluations. This third course would focus on the opportunities that exist in the areas of validity, reliability and fairness specifically related to the online environment. Instruction here would center on the designing and developing performance-based assessments, developing and building exams and response items/tests; use of scoring criteria, online assignment rubrics, grade books, use of self, peer, and instructor provided feedback through the CMS in line with the higher order thinking through Bloom's (1956) taxonomy. This course would also present the advanced assessment options that are available through a CMS and the use of plagiarism software such as TurnItIn, SafeAssign and others.

The fourth course was initially felt to cover a variety of special topics related to the planning, developing, and implementing of an online training and education. It was felt that the content of the course would be dynamic and changes over time to meet the ever changing impact of technology. It was initially discussed to offer this in a series of one (1) credit courses that students could choose depending on their need and focus but was later designed as a 3 credit course that would be revised as online and distance models evolve in the areas of PreK-12, higher education and training. The initial topic areas would focus on Administrative issues with Distance Education, Quality in Online through Program Evaluation, Choosing an LMS/CMS (Learning Management System, Course Management System), Copyright and Fair Use Issues, ADA and Online Issues, Online Learner and the integration and use of Social Media in online teaching and learning interaction. The course would additionally provide opportunities for students to engage in discussion and research current issues related to distance education, and apply new technologies and software to the development of online course modules. It was also felt that the integration of a critical curriculum development assignment at this juncture of the program would establish a framework for the final course practicum. This assignment would have them develop the justification and outline for an online curriculum that they would be able to employ in their workplace establishing an authentic online curriculum.

The final Online Instruction Practicum would serves as a culminating activity for the certificate in Online Instruction and would serve to employ the skills and knowledge developed throughout the program. Students would operationalize the curriculum project that was developed and researched in the fourth course by having them develop and create an online course in higher education, Pre-K to 12 or in a corporate training and development setting.

Significant discussions with the faculty group were held regarding the methods of program delivery with considerations of a total face to face, blended approach or fully online model. It became apparent that there was a need for faculty to model by teaching the program in a fully online format rather than the traditional face to face that other programs had embraced. It was decided that if our program was to be successful in having students develop the knowledge, skills and abilities in teaching online, that students needed to actually see theory and practice in action through modelling asynchronous and synchronous modalities. Anything short of this would provide a counterintuitive approach confusing participants.

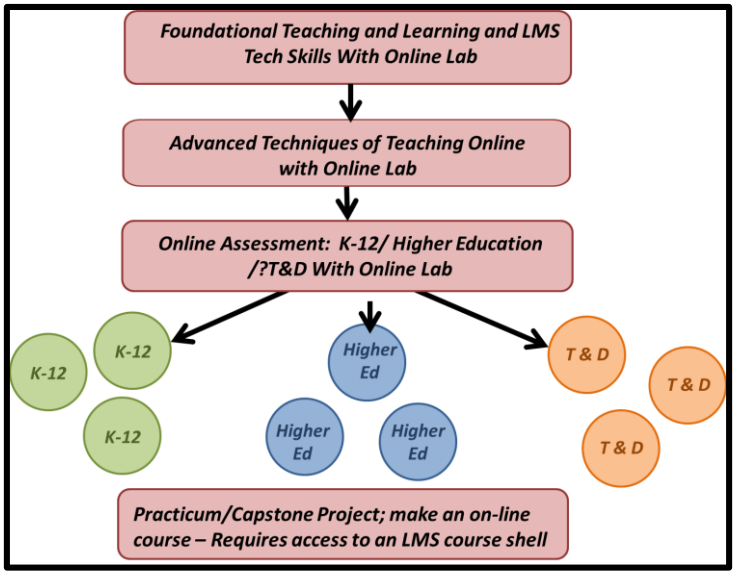

Figure 1

There was discussion regarding the use of any particular online CMS. It was felt that while there are many CMS options that participants may use, it was impractical to provide access to multiple CMSs and that having access and learning one system would be sufficient in gaining the skills and insights in developing the innate understandings of how to teach online. If students were able to learn and develop online lessons and interaction in one system, they would be able to adapt and learn any other online system that they may find themselves teaching. It was believed that while there are differences in how online platforms operate that basically there were significant similarities that would allow transfer of skills and that student, would be able to learn and adapt. It was settled that using the university established CMS, Blackboard, would be appropriate. There was also considerable discussion on establishing standards for the type of computer, software and the needed bandwidth that would be required by students. It was also felt that there should be a base line established for student technology knowledge and skill using a pre-assessment tool.

Cohort Model

The cohort model was established by our faculty team for two main reasons. The first is related to the concept of collaborative learning advancing knowledge among learners and the development of a community of learning and the positive implications. The second reason was more operational in nature to develop a sequential program and to offer this program on a semester basis. Tinto (2003) noted that in a learning community students are co-registered or block scheduled in order to take courses together. It is not surprising that the added benefit of the model is that students not only get to know and learn from their instructors, but also get to know and learn from one another. Given that online learning is relatively new in many segments and constantly evolving in the higher education setting, there are always new ideas and approaches to teaching in the online environment. Students also benefit from knowing that course registrations and class sizes and makeup are a non-issue with the cohort model.

Findings and Conclusions

In the planning and development of our online teaching certificate, we established a protocol with our faculty team that those who collectively designed and created the online courses would be the same faculty who taught these courses. To better understand the curricular content and objectives of each course, each faculty member would be given access and opportunities to review key or major elements in the Blackboard shell of other teaching team members such as goals/objectives, weekly agenda of work, assignments, discussion boards, etc.

This was critical to avoid overlap and redundancy in the 15 credit hour program. Second, faculty supported a continuous improvement model where review and revision would enable the program to continue to upgrade and improvement would be based on faculty and student feedback. In short, the faculty became the shareholders of the certificate program. Faculty were comfortable sharing content and pedagogy. As previously stated, there are three categories related to roles for online teacher which include teaching presence, instruction design and organization, and facilitating discourse and direct instruction. These roles would become the guide posts to online instruction.

The graduate level online teaching certificate program was developed to meet the needs of two specific audiences: those faculty in public and higher education, and faculty teaching in professional training programs. Given the emphasis on professional training in the economy today, it made sense to our faculty committee to organize and market the program to both groups. All of the courses provided opportunities to integrate specialized content assignments to meet teaching responsibilities. Offering a higher degree of flexibility provided relevancy and applied learning to participants. The defined competencies under the categories of K-12, Higher Education, and Training further maximize the curricular competencies for each group. These were also linked with the NETS or ISTE standards for all faculty in the certificate program.

The participants that enrolled in the program were from various teaching backgrounds. This gave the faculty an opportunity to adapt online instruction. New content would be integrated with new approaches and techniques in the online learning environment. As discussed earlier, online students are generally more self-directed and have expectations of being able to take greater control of the learning process, especially among graduate and professional educators. From our first experience, this appeared evident among our participants. All of the participants had some experience with online teaching/learning and most had reviewed our university's online training video.

In summation, the program participants all received certificates as program completers. Course evaluations and other forms of feedback from participating students indicated a sense of self-efficacy with the online program. Our faculty was interested in taking a critical look at what seemed to work best and what could be changed in the coursework. The first year experience was positive and established a base for continuing to offer the program and as a prompt for our university to entertain agreements with larger entities such as school systems, colleges and universities, and professional training schools. We realized that developing online courses from content specialists working together and that these same people teaching the online courses promoted a teaching/learning community that certainly benefited our online certificate program. By bringing together content specialists with other content specialists experienced with online teaching, we were able to bridge a gap between understanding online delivery with the knowledge of teaching content. The practice of the faculty team working together promoted a sense of cooperation and sharing in the development of the program.

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