DEVELOPING AN ON-LINE THESIS COURSE FOR HEALTHCARE PROFESSIONALS

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ABSTRACT

In a professional program designed for students from differing backgrounds who live in many parts of the country and perhaps even outside the U.S., on-line classes make a great deal of sense as they allow students access to a course regardless of the student's location and schedule. Since 2000, the Regulatory Affairs Master of Science Degree and Certificate programs have been run entirely on-line, having begun as face-to-face classes designed by the Colleges of Science and Business Administration at San Diego University. To fill a gap in the instructional catalog, we are now designing an on-line thesis preparation course for the Center for Biopharmaceutical and Biodevice Development graduate students. The course will require extensive up-front planning so that instructions and expectations are clear; it will use small assignments that build to larger assignments. The end goal is not to produce a thesis, but to learn the process and begin researching a topic that could become a thesis.

INTRODUCTION

Despite the ongoing controversy questioning academic rigor and cheating issues, on-line learning is proliferating in learning environments nationwide. The new technologies offer greater levels of access to working professionals, more flexibility in course scheduling, and cost-effectiveness. A review of the research suggested that students, especially graduate students, want more flexibility with scheduling and universities want to provide more access for remotely located students [5].

To meet the needs of a growing student population and a diminishing state budget, we are developing an on-line thesis writing course. The course will provide self-directed and teacher-directed learning, and individual and group learning. This paper will discuss the pedagogical framework, rationale and logistics, course design, course goal, course concept, and how specific and consistent instructor feedback guide students to successful completion.

PEDAGOGICAL FRAMEWORK

Many researchers have suggested that online instruction has the potential to revolutionize education by improving the quality of learning [5] [6] [7]. A well-designed online course supports the construction of knowledge through supportive interactions, communication and collaboration among teacher, students and information [8]. A review of the research suggests that online education offers students the opportunity to learn outside a traditional "brick and mortar" environment through online discussions, collaborative online activities, on-line assessment, and interactive course materials [3] [4].

Volery [10] defined online learning as a type of distributive learning enabled by the Internet. Our experience teaching on-line courses has taught us that for the new technologies to improve student learning, courses must be more than an electronic version of the conventional print versions from which they originated.

Web-based instruction requires instructors to have very specific knowledge and training that goes beyond changing the physical venue to a "virtual" classroom" [1]. The on-line platform requires instructors to shift away from the role of *expert* to learning catalyst/facilitator [2]. The shift to on-line coursework necessitates tasks that require students' active participation. Students must ask appropriate questions, observe phenomena, conduct experiments and read and research seminal information while receiving consistent and timely guidance and feedback from the on-line instructor.

On-line course websites serve as a repository for class materials and provide web tools to facilitate message exchanges between teacher and students to clarify criteria and technical difficulties, and to discuss course assignments. E-mail provides one-to-one feedback and software tools allow group-to-group exchanges. The web also provides an array of media (i.e. graphics, audio, video) which contribute to a learning environment designed to foster cooperation/collaboration between teacher and student [8].

Rationale and Logistics

This twelve week course is designed for working professionals who have completed their undergraduate degree. Because the course need sometimes exceed course availability for graduate students who are working full-time, offering this class in a *virtual* classroom is a viable solution. The on-line platform makes the class more accessible, especially to working professionals and to students who are in remote locations. Since this is an intense writing class, our concerns include maintaining academic rigor and keeping the course enrollment manageable. Another concern is that changing the platform to on-line requires that very good internal controls are in place to mitigate cheating.

Course Design

The Center for Biopharmaceutical and Biodevice Development (CBBD) offers, among other things, a Certificate in Regulatory Affairs as well as a Master of Science in Regulatory Affairs. In its eleventh year, the program began face-to-face and moved on-line a number of years ago. Until now, the thesis course has been run by the Director with assistance from faculty committee members. As the program became completely on-line, many theses defenses have been by teleconference or videoconference. An on-line thesis course would formalize much of the advising that has been accomplished by e-mail and phone calls. Experience has taught us that on-line graduate students need to be directed to university thesis sources and need to be guided through the process of developing a thesis topic and writing the thesis, which has become increasingly difficult for them to do on their own. Appendix A shows a handout used in face-to-face versions of the class to help students understand the process.

Using the existing Communication for Healthcare Professionals on-line course as a model, we have identified the course objectives, developed assignments, provided website links to assist learners, and provided access to collaborative technologies to assist with teamwork and general interaction. The backbone of this on-line course includes access to course materials, synchronous/asynchronous group and individual communication, and timely feedback using rubrics and scoring guides.

The classic communication models remind us that communication only takes place when the information sent by a speaker or writer is actually understood by a listener or reader [10]. This is especially true of on-line instruction, where students do not have a live person in the room to question about assignment details. Our course design tenets below helped us design an effective on-line class for students.

1. On-line instruction needs a great deal of up-front development to be clear to students. Based on our experience teaching classes on-line, we knew that posted information needs to be very clear to students unfamiliar with the subject. This seems obvious, but instructions clear to us are often misinterpreted even by thoughtful students. For example, in a course requiring a rationale of a course paper, we asked for annotation on the initial source list. This elicited many questions, from what did annotation mean, to how to format it, to which source lists needed to include it. In the second version of the course, giving an example of an annotated source list cleared up the problem.

2. On-line instruction benefits from deconstructing assignments into smaller pieces of required information and skills in order to give students all the resources they need to succeed on an assignment. Students have not written a thesis before, so they need to know how to choose a topic, what the required chapters are, and how to research and write up results, among other things. Appendix A [not attached due to space constraints] has tips on selecting a thesis topic based on familiarity, interest, and pertinence to work, but topic selection is just the beginning.

Once the topic is approved, students develop an outline similar to the one in Appendix B [not attached here]. The thesis planning class needs to help students learn how to develop a useful outline from which they can then research and write. The on-line thesis planning class can help students learn what the process is, plan a substantial paper, and write it. Course Objectives are to: Prepare students to produce a publication-quality written research project that contains at least Chapter 1, an introduction and problem statement; Chapter 2, a detailed review of the literature; Chapter 3, findings and analysis; Chapter 4, conclusion and recommendations. The project should follow APA guidelines for references and citations. It will include a reference list and appendices.

This is also helpful in a face-to-face class to ensure that everything students need to understand and successfully complete an assignment is available to them. The weak link for us with undergraduates is that students may not actually download, read, and use the information we have made available to them. Since graduate students have to pass the thesis planning course to be admitted to candidacy and then write actual theses, they are somewhat more motivated to work through the process, using the handouts and links made available to them. The goal and course concept with which we begin the course website follow.

COURSE DESCRIPTION

Course goal: to provide working healthcare professionals with the knowledge and skills required to understand, interpret, generate and evaluate research to culminate in their eventual thesis.

Based on readings and course writing, students will learn what the thesis process is; what resources are available in the Graduate Office; how to choose an appropriate topic, get it approved, and choose a committee; how to do research into regulatory affairs and quality control, among other topics; what a typical thesis outline of chapters consists of; and what APA format for references and citations is.

- Course readings: APA manual, selected discipline-specific readings.
- Critical Thinking Skills: Development of a research proposal based on the analyzing and synthesizing of information will provide students with the opportunity to apply the concepts presented in class and from course readings.

- Performance: Throughout the course, students will be expected to demonstrate ability to interpret and discuss research, conveying that knowledge through threaded discussions and a written proposal that will serve as the culminating project for the course. Shorter written work will apply research and reference skills learned in the class.

Course materials will be posted on the course website. Students who are officially enrolled in the class have unlimited access. The material will be organized into the following categories: Welcome, Syllabus, Assignments, Schedule, Groups, Discussion Boards, Resources, Documents, Feedback.

Because of space limitations, we cannot include a full course syllabus, but our paper as presented will contain more detail about the course development process and the materials posted on the course site.

REFERENCES

[1] Anderson-Cruz, H. & Vik, G. (April 29-May 1, 2010). Using writing to improve conceptual understanding and critical thinking in accounting. A paper presented at the WAAA Conference, Portland, OR.

[2] Bates, C., & Watson, M. (2008). Re-learning teaching techniques to be effective in hybrid and online courses. *Journal of American Academy of Business*, Cambridge. Retrieved from ABI/INFORM Global.

[3] Gulati, S. (2008, May). Compulsory participation in online discussions: is this constructivism or normalisation of learning? *Innovations in Education & Teaching International*, 45(2), 183-192.

[4] Mason, R. (1998). Models of online courses. *ALN Magazine, 2*(2). Retrieved from http://aln.org/publications/magazine/v2n2/mason.asp

[5] Oliver, R. (1999). Exploring strategies for online teaching and learning. *Distance Education,* v. 20(2), pp. 240-255.

6] Owstow, R.D. (1997). The World Wide Web: A technology to enhance teaching and learning. *Educational Researcher*, v. 26, pp. 27-33.

[7] Powell, W. (March, 2003). Essential design elements for successful online courses. *Jounral of Geoscience Education,* v.51, n.2, pp. 221-230.

[8] Pudichery, J. (2003). The role of web technology in Education. A paper from the Proceedings of the Academy of Educational Leadership, Vol.8, Number 2.

[9] Vik, G. & Anderson-Cruz, H. (November 21-22, 2008). Pedagogical issues in teaching advanced communication on-line. A paper presented at the CSU Business Conference on Online Teaching and Learning, CSU Dominguez Hills.

[10] Volery, T. (2001). Online education: An exploratory study into success factors. *Journal of Educational Computing Research*, 24(1), pp.77-79.