



Distance Education for a Doctor of Pharmacy Program A Learning Experience

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Objectives

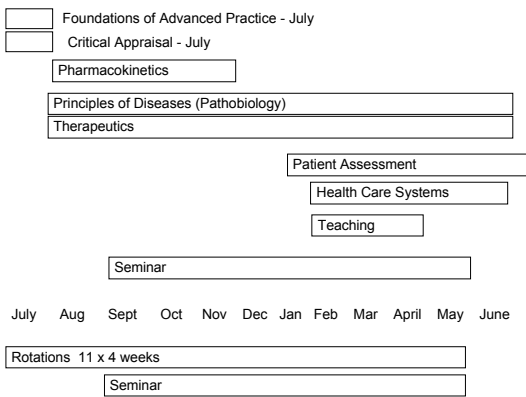
- Review the history of the UofT Doctor of Pharmacy program
- Discuss the process we followed to develop the pilot on-line project
- Highlight the learning that occurred during and after the pilot
- Update on developments since pilot

History of the program

- The Mission of the Doctor of Pharmacy program at the University of Toronto is to provide a specialized learning environment for pharmacists' development of expanded knowledge and skills which enable them to improve patients' health outcomes and contribute to the advancement of the pharmacy profession

Mission

- In support of this we are committed to:
 - Teaching knowledge, skills and professional values that are required to practice pharmaceutical care
 - Development disseminating and applying knowledge through innovative teaching and practice
 - Providing an academic environment in which the changing demands of modern health care are met through collaborative partnerships



1999 - 2002

- perceived market need for Canadian program that delivered flexible format
- Working group formed
 - Phase I
 - Other part-time programs, technology-related pedagogical methods
 - Developed preliminary proposal
 - Phase II
 - Feedback on preliminary proposal from individuals from across Canada
 - Conclusion – not feasible, require alternative format

2002 - present

- Sept - New director with responsibility to develop on-line program
- November - decision to pilot on-line session
- Patho/Therapeutics courses were chosen
 - One patient case delivered on-line
- Time identified when students had few assignments
- Agreement of current students to participate

Pilot

- Objectives
 - Discover the appropriateness of this mode of delivery
 - Document the limitations and benefits of chosen course management system
 - Identify resource issues for future program
 - 2 settings
 - Current students (content, technology etc)
 - Alumni (feasibility etc)

Planning

- Director met with University support personnel to determine resources available for on-line learning at U of T
- Limited resources available
- Estimated cost for developing on-line degree \$70,000 - \$300,000
- University willing to provide free resources for pilot/demonstration project
- Given 2 months to develop program

Planning

- Course Management System
 - Blackboard
 - WebCT
 - Web Knowledge Forum
 - Toohey S, Watson E. Twelve tips on choosing web teaching software. Med Teach 2001;23:552-555
- Resources and Support
 - Wong G, Greenhalgh T, Russell J, Boynton P, Toon P. Putting your course on the web: lessons from a case study and systematic literature review. Med Education 2003;37:1020-23

Planning

- WebCT training courses
 - Program coordinator/facilitator - 2 training courses
- Resource Centre for Academic Technology
 - Support staff from RCAT
 - Established 'shell' within WebCT
 - Planning/Uploading
 - Audio recording
 - Trouble shooting

Course Development

- Principles of Disease
 - Face to Face
 - 3 hour didactic session 1day/week
 - On-line
 - Audio delivery of lecture
 - Power point slides
 - Required recording of voice-over
 - Required preparation of slides/conversion to HTML
 - Students required RealPlayer on computer

Course Development – Therapeutics

- Face to Face 9 hours over 1 week (Thurs/Tue/Wed)
 - Session 1 (3 hours)
 - Presentation of didactic session of material not covered with discussion period (Acute MI management)
 - Class discussion of case, using therapeutic thought process develop their learning objectives
 - Course facilitators objectives provided after session
 - Session 2 (3 hours)
 - Students presents learning that has occurred and applied to identified problem
 - Session 3 (3 hours)
 - Students develop therapeutic and monitoring plan for patient case, discuss outstanding learning objectives

Therapeutics On-line session

- Modified shell of course (welcome message etc)
- PowerPoint slides, written text and required readings were prepared and posted for students review prior to starting case (prepared 1 month prior to pilot)
- Case posted for students review
- On-line chat session for objective setting (recorded)
- Facilitators objectives made available after chat session
- Set guidelines regarding timing of posting response to learning objectives

- Set topics that followed thought process to initiate threaded discussions within bulletin board
- Reviewed postings within bulletin board and commented when required
- Answered e-mail directed at facilitator
- Developed, posted and evaluated formative quiz
- Sternberg CS Embedding a pedagogical model in the design of an online course Nurse Educator 2002:27170-73.

Results

- Students agreed not to meet for therapeutics for the week of the pilot
- Students registered by program coordinator
- Students oriented to WebCT by facilitator
- Posting of materials by RCAT, program coordinator and facilitator

Principals of Disease

- Audio recording could not be made prior to planned week
- 'live' session was recorded for alumni session
- Significant reworking of audio session required
 - 24 slides
 - Audio file requiring real player

Results - Therapeutics

- Students reviewed didactic material at later time
- 3 chat sessions
 - Initial 90 minute chat session
 - Student initiated own session
 - Wrap-up session at end
- Students followed previous face to face timelines to post information creating busy two final days of session
- Needed to keep several discussions going concurrently which students found challenging
 - 50+ postings to bulletin board, including summary documents created by students
- All students completed formative assignment

Results - Alumni

- Alumni did not receive on-site orientation to WebCT, received directions and problem solved on their own
- Unable to coordinate time to complete session as a group over a 2 week period
- Several alumni completed session independently over 2 months
- Provided feedback on process and technology

Technical

- Hospital firewalls
 - Impact on chat rooms
- Learners familiarity with software/technical issues
 - Minimal computer standards/internet access for future program
 - Orientation to technology and ongoing tech support for student/faculty
- Challenges of developing/delivering audio on WebCT

Students

- Student had thought process in place so could easily adopt the use of it
- Students identified differences of face to face learning and on-line learning
- Timetable of activities was different compared to usual routine
- Definite learning curve with technology
- Alumni group – challenges of identifying 2 week block to complete learning as group, technical challenges

Facilitator

- Planning, planning and advanced planning
- Needed to have understanding of software and resources for tech support
- Timelines quit different face to face course
 - On-line several times a day
- Need to realign skill of assessing students understanding of information as case proceeded

Fringe Benefits

- SARS
 - Facilitators could not travel to University
 - Students could not enter hospitals
 - Facilitator trained in Blackboard, WebCT, coordinator of Therapeutics Course for on on-line ANCP program
 - Learning was transferred from Face to face to WebCT
 - Facilitator was able to provide 'tips' learned from other on-line learning, commenting the students had very good discussions

Overall Evaluation

- WebCT can be used as a base for on-line delivery of courses for the Doctor of Pharmacy program
- Student/Staff orientation and support are essential
- Students need committed time for effective collaborative learning
- Current format of advanced therapeutics suits on-line learning

Distance Doctor of Pharmacy Program

- Proposal to Faculty January 2004
- Target: First Class August 2004
 - The current on-campus program's mission statement will provide overall direction of the distance program
 - Distance program will maintain same rigor in teaching and assessment as current on-campus program
 - Distance program will be based on self-directed learning, collaborative learning, problem solving, pharmaceutical care as practice model

Outline

- Cohort of students
- 2 years of course work, 11 rotations
- 3 residencies (4 – 7 days at U of T)
 - Introduction to; technology, the program, faculty and cohort of students, group learning, delivery of courses
 - Evaluation, seminar, coursework

Resources

- Technology resources identified
 - Conversion/posting information
 - Development of additional web-based resources not currently available on WebCT
 - Educational Consultant for course development
- On-going education of current faculty
 - Education Specialists – Wayne Sellors OISE
 - WebCT courses
 - Retreat
- Potential to use facilitators from across Canada in Advanced Pharmacotherapy course

Other areas

- Courses
 - Realignment of Principles and Disease and Therapeutics as one course
- Admissions
 - Realistic workload considerations
 - Ideal distance learner
 - Self-discipline, motivated, independent, able to use technology
- Evaluation
 - Student – working to identify technology to support evaluation
 - Program evaluation program

Other references

- Hunter TS, Deziel-Evans L, Marsh WA
Assuring Excellence in Distance
Pharmaceutical Education AJPE
2003;67:1-25

Thanks go to

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