Technology, Student Learning, and the Clinical Years: Success and Failure

Department of Pharmacy Practice
Creighton University
Omaha, Nebraska

Learning Objectives

• Describe the use of technology in a dispensing course
• Describe the use of technology in a Therapeutics course (conferencing software, eMR)
• Describe the use of the Internet to deliver a certificate course
• Describe the use of technology to develop patient education materials by P4 students
Presenters

- Michael Monaghan (Moderator)
- Sam Augustine (Dispensing)
- Kimberley Begley (Dispensing)
- Kelly Anderson (Therapeutics Online Mentor)
- Keith Christensen (Therapeutics IOR and Certificate Instructor)
- Michele Faulkner (Ambulatory Rotation)

This Presentation is Available at…

- www.aacp.michaelmonaghan.org

At the End of the Presentations…

- Develop a scenario using technology at your program based on the presentations
- Share with the group
- Panel Discussion for questions
Creighton University

- Entry-level distance pathway using Internet delivery (classroom capturing software)
- Laptops
- ADATC and FITT Programs
- Blogs (Christensen and Therapeutics)
- iTouch (modified vodcasts and Therapeutics; app development)
- eMRs, ePortfolios, HD distance course development

The Use of Technology in the Dispensing Laboratory

Sam Augustine, Pharm.D.
Kimberley Begley, Pharm.D.
Creighton University
School of Pharmacy and Health Professions
Objectives

• Apply and assess pharmacy management systems in dispensing laboratory
  – Etreby and Qs1
• Apply and assess MTM software to familiarize students with its use
  – MIRIXA
• Apply and assess the use of the Flip Video system in the dispensing laboratory

Lab Workflow

INPUT

Rx processing

DUR

Verification

Patient Counseling or Interview

Dispensing and Pharmaceutical Care Laboratory

INPUT

Dispensing Software

DUR

Drug Utilization Review

MIRIXA

Electronic Health Record

Drug Utilization Review

MTM Instruction

Recording and Gowning

- Cholestech
- Glucometer
- ABI Doppler
- CoaguChek
- Mannequin
- Compounding
- Immunization

Flip Video Demonstrations

- Faculty
- Alumni Volunteers
- Lay Volunteers

Flip Video Instruction Modules

- Faculty
- Alumni Volunteers
- Lay Volunteers
Rx Input and Processing

- Voice mail/telephone order
  - Prescription transcription
- Rx Processing
  - Etreby
  - Qs1
- Top 200
  - Flip Video

Drug Utilization Review

- Qs1
- Electronic Health Record
- Etreby
- Brown Bag Review
  - Flip Video

Rx Verification

- Qs1
- Use of system to familiarize students with on screen verification processes
Patient Interview and Counseling

- Patient Counseling
- Patient Medication History
- MTM
Applications – Patient Counseling

Applications – Medication History

MTM

- MIRIXA
- Zune
  - Instruction
  - review
Flip Video Applications

- Techniques
  - Gowning and Gloving
- Demonstrations
  - Cholestech, Coaguchek, Glucometer, Osteoporosis, ABI Doppler, Compounding, Mannequin
- Instruction
  - Faculty and Alumni
Demonstrations

Instructions - Alumni

- A good example of an Advair counseling session: http://winstream.creighton.edu/spahp/pha485/advar_proper.wmv
- A bad example of an Advair counseling session: http://winstream.creighton.edu/spahp/pha485/video1.wmv

Assessment

Good/Bad
Assessment

Keep / Delete
Expand

Internet Conferencing Software for Case Studies

Kelly Anderson, Pharm.D.
Department of Pharmacy Practice
Educational Mentor

• My educational background
  – Graduated from Creighton with a Pharm.D. in 1998
  – Completed an Ambulatory Care Residency
  – Assistant Professor of Pharmacy Practice
  – Became an Educational Mentor in 2002
• Definition of Educational Mentor

Pharmacotherapeutics

• Team taught course
• Lectures are videotaped and posted
• Case studies for the active learning component
• Were done asynchronously with a discussion board
• Scores were lacking

Internet Conferencing for Case Studies

• Currently use iLink via CULive
• Students sign up for a discussion time; therefore done synchronously
• Role of the educational mentor
  – Facilitate the discussion of case studies
  – Answer emails
  – Support the students in the process of assimilating and applying learned information
Before the First Session

• Schedule a recurring meeting
• Edit profile
• Add picture
• Run Audio Wizard
• OLAT available for help

During the Session

• Log in to iLinc
• Take attendance
• Reduce background noise
• Case presentations
  – Example 1
  – Example 2
  – Example 3

After the Session

• Students email a copy of the presented case to me
• Follow up on any points that were not clear and/or questions that could not be answered
• Grades based on Case Study Grading Rubric
Considerations

• Satellite connection versus cable connection
• Maintaining the flow of discussion
• Explaining calculations

Teaching with Technology:
A Pharmacy Resident Certificate Program

Keith Christensen, Pharm.D., BCPS
Assistant Professor of Pharmacy Practice
Creighton University Medical Center
School of Pharmacy and Health Professions
Objectives

• Describe the instruction of a teaching certificate program specific to the integration of technology in teaching
• Examine the various topics covered by the program
• Provide examples of the materials generated at the conclusion of participating in the program

Components

Use of a Community Learning Site

• Connect to the residency certificate online learning community
• Post your personal commentary, questions, calendar notices and of course get the latest on your assignments for the live learning sessions

Topics

1. Teaching with Technology: Windows XP and Vista Utilities
2. Instructional Photo Shows for the Web, CD-ROM or DVD
3. Teaching Handouts: Instructional CD Production
4. Audio Teaching Strategies: Production & Distribution
5. Digital Video for Routine Teaching Presentations
6. Streaming Media for Students, Staff and Patients
7. Personal Clinical Teaching Archives
8. Handheld Technology: Patient Teaching Strategies
9. Pharmacy Teaching Center: The Home Network and Home Data Center
Use of the Internet

Creating Web-deliverable Patient Teaching Resources

Michele Faulkner, Pharm.D.
Creighton University School of Pharmacy and Health Professions
Ambulatory Care Rotation

• Internal Medicine Clinic
  – Patients referred to pharmacist for individualized diabetes education
  – One-time appointment
    • Diet
    • Exercise
    • Glucometer use
    • Insulin injection

Project Creation

• Video demonstrating insulin handling and injection technique

• Technology
  – Microsoft Photo Story 3 for Windows/Windows Movie Maker
  – Digital Camera
  – External Microphone

Project Creation

• Decide upon key messages
  – Corresponding visuals

• Narrative
  – Script written by students and edited by preceptor
  – Photos arranged in order of script
  – Narration completed by students
Project Creation

• Title slide and end credits
  – Creation of individual slides in PowerPoint
  saved as .jpg files

• Dissemination for consumption by
  patients and caregivers
  – DVD
  – Video sharing website

Project Creation

• Software demonstration
  – [http://www.microsoft.com/windowsxp/using/digitalphotography/PhotoStory/default.msp](http://www.microsoft.com/windowsxp/using/digitalphotography/PhotoStory/default.msp) (Photo Story 3 Download)

• YouTube
  – [http://www.youtube.com/watch?v=UVO1wRLPNuM](http://www.youtube.com/watch?v=UVO1wRLPNuM)

Barriers and Benefits

• Barriers
  – Patient population
    • Age
    • Individual access to technology

• Benefits
  – Ease of creation
    • Intuitive software
    • Quick production
  – Minimal cost
    • Programs are free to download
    • Free access on web
  – Unlimited access to educational tool by patients and caregivers
  – Teaching students to use technology in future practice
Now, Your Turn!

• Develop a scenario using technology for use at your institution based on the presentation
• Describe the technology use currently in place

Panel Discussion

• Specific questions related to presentation
• Questions related to other endeavors:
  – Laptops
  – ADATC and FITT Programs
  – Blogs (Christensen and Therapeutics)
  – iTouch (modified video casts and Therapeutics; app development)
  – eMRs, ePortfolios, HD distance course development