



MASSACHUSETTS COLLEGE of PHARMACY and HEALTH SCIENCES

Creative Information Competency Instruction for Distance Learners

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Introduction

- Massachusetts College of Pharmacy and Health Sciences School of Pharmacy Worcester/Manchester (MCPHS-SOP W/M)
- MCPHS Libraries
- Doctor of Pharmacy Accelerated
 - Year around, intensive
 - Full time
 - 34-month degree
 - Worcester based
 - Delivered to satellite Manchester campus
 - Adult learners
 - Large classes



MCPHS Worcester, MA campus



MCPHS Manchester, NH campus

Distance Education Technologies

- Video conferencing (TANDBERG): Two-way audio and video communication in real time between sites. Students at both sites can see, hear, and interact with faculty and each other
- Web CT: Learning Management System
- Clickers - student response system
- Document camera
- Smartboard
- Touch panel controls
- DVD/VHS
- Webcams
- Phone
- Voice Amplification



Simultaneous videoconferencing to on- and off-campus students



MCPHS-W Aud. 2

MCPHS-W 166-seat Aud. 2



Plasma TV screen with MCPHS - M



MCPHS-W Aud. 2 Podium



Podium Computer & Touch Screen



MCPHS W/M Video Projector, Camera, Ceiling Mic



Back Room Controls



Videoconferencing + Course Management System (CMS) Model

- Student-instructor interaction
- Student-student interaction
- Blurs on-campus/off-campus lines
- Equal communication to on-site and off-site
- Creates a learning community
- Distributed instruction via multiple technologies
- Works well with large classes
- Supports faculty collaborators
- Establishes patterns of course activities for predictability
- Timely feedback

Information Competency Instruction on-site and at a distance

- [2004 CAPE Educational Outcomes](#) framework
 - [Library and Educational Resources Supplemental Outcomes](#)
 - Library Instruction "need to know" and "nice to know" outcomes
- MCPHS Pharm. D. Educational Outcomes
- MCPHS Strategic Plan-Focus on learner centered teaching
- Library Instruction – Orientation, 1st and 2nd year curriculum and elective courses
- *PPW 379 Drug Literature Evaluation and Informatics in Health Care*, 2hrs.; credit 2 s.h. spring, W=162, M=55
 - "Introduces retrieval methods, evaluative techniques, and application of the various forms of primary, secondary, and tertiary medical and pharmacy literature. In small and large group settings, utilizing a student centered approach, students actively develop the skills needed to apply the literature to pharmaceutical care issues." (MCPHS Course catalog)

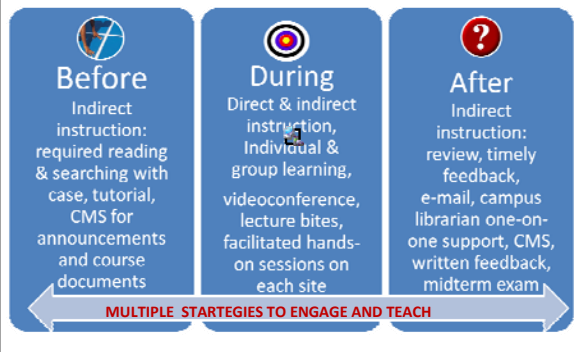
Library Instruction in PPW 379 Drug Literature Evaluation and Informatics in Health Care

- Coordinator-managed, instructor-taught, collaboratively-created and delivered
- 5 1-hour didactic + demo sessions using case approach
 - Introduction to print and e-tertiary resources
 - The information search process, MeSH, PubMed
 - Drug Information resources/retrieval I: Ovid's suite
 - Drug Information resources/retrieval II: Embase.com
 - Drug Information resources/retrieval III: Guidelines, Internet and Health 2.0, Alternative medicine and Patient Education resources;
- 4 1-hour hands-on exercises on a case
- 1 graded assignment based on exercises
- Grading rubric for search assignment
- 10 mid-term multiple choice exam questions

Course Section Planning, Coordination, Management & Integration

- Planning
 - Course section planning with course coordinator
 - Course section library instruction planning
 - Core teaching material, resources, instructional strategies, assessment
- Coordination
 - Coordination with remote campus librarian
 - Coordination with other involved facilitators
- Management
 - Course coordinator overall management and communication
- Integration & Success
 - Faculty-Librarian partnership in teaching
 - Campus Librarians collaboration
 - Campus faculty involvement
 - IS support

Learning Design and Development: Focus on the Learner



Library Instruction in PPW 379 Drug Literature Evaluation and Informatics in Health Care

COURSE SECTION GOAL: Introduce students to variety of drug information resources, information seeking practices and to developing a set of information literacy competencies (CAPE)

Week 1: Introduction to Tertiary Resources – Michele, Irena, 50 min.

Goal: Introduction to Tertiary Drug/Health/Herbal Information Resources

Outcomes: Students will be able to:

- 1.1. Identify the typical content and organization of tertiary sources of drug, health and herbal information used by pharmacists and health care providers - CAPE
- 1.2. Identify and use a variety of information resources that enhance the pharmacist's understanding of patient care – CAPE
- 1.3. Analyze the similarities and differences of the various tertiary information resources for locating specific types of drug, health, or herbal information

Week 1: Content	Instructional Methods
I. Introduction / Course Overview A. Session objectives and agenda	Videoconference, 10-15 min. lecture bites (segments) Visuals/diagrams, tables, flowcharts
II. Overview of drug/health information resources A. Organization of drug information B. Discuss with examples, compare C. Summary & questions	Direct instruction - ppt. Demonstration
III. Core tertiary print and e-resources A. Discuss with examples, compare B. Summary & questions	Direct instruction – ppt. + demo Annotated bibliography Question and answer
IV. Tertiary Drug Information Systems (Lexi-Comp, Micromedex, Clinical Pharmacology) A. Discuss, compare, demo (case) B. Summary and questions	Direct instruction – ppt. Demonstration Comparative Table
V. Herbal Drug Information resources (Natural Standard, Natural Medicines Dtb., Facts & Comparisons) A. Discuss, compare, demo (case) B. Summary & questions	Direct instruction Demonstration Comparative table
VI. Use e-tertiary resources to answer specific requests (Week 2)	Facilitated group hands-on workshop Exercise guide for facilitators

Library Instruction in PPW 379 Drug Literature Evaluation and Informatics in Health Care

Week 2: The Information Search Process and Secondary Drug/Health Information Resources – Irena, 50 min. lecture + demo, 50 min. hands-on session

Goal: Introduction to the information search process and searching secondary drug/health information sources: Focus on MESH and Medline via PubMed

Outcomes: Students will be able to:

- 2.1. Understand and apply the steps of the information search process
- 2.2. Analyze the information need to determine whether tertiary, secondary or primary resource should be consulted.
- 2.3. Identify the typical content and organization of Medline through PubMed
- 2.4. Develop proficiency in searching Medline@PubMed: Build search strategies using Boolean operators, controlled vocabularies where applicable (e.g., MESH), database limiting capabilities, and field searching; Refine and implement effective search strategies for different purposes – CAPE
- 2.5. Determine accuracy of information by investigating authority of resources, effectiveness of search strategy, and potential biases or conflicts of interests in the information retrieved-CAPE
- 2.6. Maintain records of information retrieval processes - CAPE

Week 2: Content	Instructional Methods
I. Introduction / Overview A. Session objectives and agenda B. One thing you learned/not clear about	Videoconference, 10-15 min. lecture bites (segments) Visuals/diagrams, tables, flowcharts
II. Introduction to the info. search process (ISP)-1, 2 A. Discuss required reading B. Define, discuss, compare, demo (case) C. Summary & questions	Think, Pair, Write, Share Debrief + Comparative Table PICOR exercise Direct instruction - ppt. + demo
III. Secondary Drug Information Resources -1, 2 A. Discuss required reading B. Define, discuss, examples C. Summary & questions	Think, Pair, Write, Share Debrief Large Group discussion Direct instruction – ppt.
IV. Medline @ PubMed - 3, 4, 5, 6 A. Discuss required tutorial and search B. Discuss, compare, demo (case) C. Summary and questions	Think, Pair, Write, Share Large Group discussion Debrief + Comparative Table Direct instruction – ppt. + demo
V. MESH - 4, 5 A. Discuss required tutorial and search B. Discuss, compare, demo (case) C. Summary & questions	Think, Pair, Write, Share Large Group discussion Demonstration 10 Medline Search Strategies hdt.
VI. Apply ISP with case using tertiary resources and PubMed - 1, 2, 3, 4, 5, 6	Facilitated group hands-on workshop Exercise guide for facilitators

Cooperative Learning Strategy: Think, Write, Pair, Share

- A simple and quick strategy where the teacher poses a question, participants actively engage in a discussion about a question that begins with personal reflection, followed by sharing thoughts with partners and group sharing, and ending with teacher's synthesis.
- Use
 - For warm-up
 - to stimulate discussion
 - to assure for prior reading/knowledge base
 - When teacher is new to collaborative learning

How does it work?

1. **Teacher poses the question and sets time:** What are 3 types of drug information questions answerable with e-tertiary drug information systems (6 min)?
2. **Teacher asks students to think and write** about their individual thoughts before listening to other people's ideas (2 min.)
3. **Students pair** with a partner and each discuss your thoughts and decide on your answer (2 min.)
4. **Students share** your answer with the class (2 min.)
5. **Teacher concludes** with a synthesis to validate student responses, highlight good points, gently correct incorrect responses, and add other points or provides an expert response.

Think/Write, Pair, Share Online Transferability

High if:

- distant class is small
- members pair with student sitting next to them
- question/reading is posted prior to class
- teacher has good prompts verbal and written
- pairs share top most important point with class
- pairs share ideas not yet mentioned
- sufficient time is allowed depending on question
- teacher uses activity immediately in class and assignments
- question does not require long thoughts and discussions

Feedback-Debrief

Question: What are 3 types of drug information questions answerable with e-tertiary drug information systems ?

1. Drug dosing
2. Drug interactions
3. Therapeutic class

Formulating Questions Exercise

Directions: Using the following case develop a clinical research question using PICOR (Patient, Intervention, Comparison, Outcome, Resource) to search (6 min.)

Case: J., a smoker of more than 30 years wants to quit smoking. He had tried to quit smoking unsuccessfully and now wants to try acupuncture. Should he try it?

1. **Think & Write** your own thoughts (2min.)
2. **Pair** with the colleague next to you and share each other's thoughts (2 min.)
3. **Share** with class (2 min.)

Feedback: Exercise Debrief

- P - long term smoker
- I - acupuncture
- C - nothing or nicotine replacement/patch
- O - quit smoking

Question Statement: In long-term smokers, does acupuncture, compared with other interventions, improve the chance of successfully quitting smoking?

Getting Started Plan with Some Tips?

1. Select a learning outcome
2. Think about the learners and design learning for the remote student (rather than for the on-campus student)
3. Suggest a learning activity to best meet the outcome
4. Design so teaching/learning can be assessed (clickers?)
5. Think about sharing teaching with other faculty/librarians
6. Design so activities can be improved, shared, updated easily
7. Use multiple strategies to engage creativity (mini-lectures, lecture bites, demos, visuals, videoconferencing, case study, team work, exercises and individual assignments, collaborative learning...)

References

- AACP. 2004 CAPE Educational Outcomes available at: <http://www.aacp.org/resources/education/Documents/CAPE2004.pdf> . Accessed July 15, 2009.
- Barkley EF, Cross KP, Major CH. Collaborative Learning Techniques: A Handbook for College Faculty. Jossey-Bass: CA, 2005.
- MCPHS Videoconferencing images credit to Jason Snell, Media specialist, MCPHS-Worcester.

Thank you!

Questions?