Blended Learning Template: Unit Level

Course: Basic Database Searching Techniques: Entry Level

Unit 2: Advanced Boolean Searching: Using Parentheses to Create a Complex Search

Course Description: Course Description: Every profession has its own, unique language, terminology and core learning resources. These core resources include online databases. PubMed is an online, biomedical database and a core electronic resource for medical residents.

Course Goals and Objectives: After completing this two week, flipped course, 10 first year residents will be able to:
- Execute a basic search using the Boolean operator AND
- Execute a basic search using the Boolean operator OR
- Execute an advanced search with both the AND and OR operators, by using parentheses, within the same search statement.

During this four week, flipped class, residents will:
1. Watch multimedia videos on course topics prior to meeting F2F.
2. Create a Pinterest account and post to the classroom pin-board prior to meeting F2F.
3. Execute searches in PubMed prior to meeting F2F.
4. Post strategies and search results to the classroom pin-board.
5. Attend Google Hangout sessions where the instructor will execute searches, screen share results, and give residents the opportunity to ask questions.
6. Work in teams of two, during the F2F portion of the course, to discuss searches strategies completed that were posted to the classroom pin-board prior to meeting F2F.
7. Work in teams of two, during the F2F portion of the course, to formulate search strategies and execute searches in PubMed.
8. Present their search strategies and results to the class, during the F2F portion of the course.

Unit 2 Description: Residents will learn how to construct an advanced Boolean search using both the AND and OR operator within the same search string.

Residents will use parentheses to formulate their strategy. Residents will use PubMed to execute these searches.

Unit Learning Objectives:
- To compose and successfully execute a search using parentheses and the Boolean operators AND and OR

Unit Learning Outcomes:
- To explain how using parentheses creates a complex search strategy
- To execute a search using parentheses and the Boolean operators AND and OR

Week/Day/Hour	Asynchronous Activity/Strategy	Synchronous Activity/Strategy	In-person Activity/Strategy	Resources	Evidence/Research
One week prior to week 2 (asynchronous and synchronous activities) Week 2 F2F activities	Watch the video: Advanced Boolean Searching Residents will choose a topic that must contain at least four, distinct concepts. Residents will then execute an advanced Boolean search in PubMed Using a screen capture tool (for example, Grab or SnagIt) take a screen shot of the search strategy and pin it to the class pin-board.	Instructor led Google Hangout session prior to F2F meeting.	Residents continue to work with their assigned teammate from Unit 1. Working within their teams, residents will compare their advanced Boolean search strategy and results. Residents may rework their strategies and ask the instructor for guidance. Instructor will give each team a new topic. Each team will formulate and execute their search. Each team will present and explain their	Video: Advanced Boolean Searching For students who do not have a screen capture tool, suggest: http://awesomescreenshot.com/ Google Hangout instructions: https://support.google.com/plus/topic/3008151?hl=en&ref_topic=1257349 Class Pin-board: http://pinterest.com/umassidstudent/pins/	Strayer, J.F. (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning Environments Research, 15(2), 171-193*.

			search strategy to the class.		

Plan of Action: One week prior to the second F2F class, the instructor will send residents an email with the following:
- Link to the YouTube video: Advanced Boolean Searching
- Link, with date and time, of the 2nd Google Hangout session.
- Instructions on how to do a screen shot with Grab (Mac) or Snip (PC).
- For students who do not have access to either tool, a link to the free screen capture tool Awesome Screenshot.
- Instructions pertaining to the PubMed search they must execute and pin their search strategy to the class pin-board.

During the second Google Hangout session, residents will:
- Watch, via screen share, as the instructor executes an advanced Boolean search in PubMed.
- Interact with the instructor during the Q&A session

During the second F2F session, residents will:
- Work with the same team member from unit 1
- Within their teams, compare the advanced Boolean search they did prior to the class and the search strategy and results they pinned to the class pin-board.
- Given time to ask the instructor questions
- Each team will be given by the instructor one new search topic
- Each team will execute their advanced Boolean search using AND, OR and parentheses
- Each team will present their search strategies and findings to the class

Notes: If residents have not mastered the OR operator, they will not be able to perform an advanced Boolean search containing parentheses. Depending on what type of feedback was received during the first session, the instructor may want to schedule a 10 minute recap on how to use the Boolean operator AND and how search results differ when using the operator OR.

How to use this template:

- **When:** Use column 1 to plan when you will teach (week, day, hour)
- **What and Where:** Use columns 2, 3 and 4 to plan your online and in-person activities
- **How:** Use column 5 to list resources specific to and appropriate for in-person or online activities
- **Why:** Use column 6 to discuss the research that informs your instructional strategy and where the instruction will take place

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