

Module 7: Multimedia Tools  
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**Purpose:**

To teach first year medical and nursing residents how to perform a basic literature search using the Boolean operators AND, OR and NOT and how to perform an advanced or complex literature search using parentheses.

I have found that F2F teaching Boolean operators has had mixed results. Students usually have no trouble understanding the Boolean operator AND yet tend to have a difficult time with the operator OR and with the concept of nesting and the order of operation. There is a lot of nodding and blank stares and when we move from lecture to students' using their laptops to formulate a search, most cannot move beyond AND. I end up working with each student individually. This has been counter-productive because while I am working with one student, the remaining students struggle, become bored or drift off.

This will be a flipped class where the students will watch two YouTube videos explain that explain how to do a basic and advanced search. The students will watch these YouTube videos before coming to class and F2F class time will be spent doing small group projects and presenting results to the class.

Course is limited to 10 residents maximum per class.

**Learning Objectives:**

1. Describe how the Boolean operator AND informs a search
2. Compose and execute a search using the Boolean operator AND
3. Describe how the Boolean operator OR informs a search
4. Compose and execute a search using the Boolean operator OR
5. Describe how using parentheses in an advanced or complex search effects search results
6. Compose and execute a complex search using the Boolean operators AND, OR and parentheses

**Procedure:**

**Outside of the classroom:**

1. Students will watch two YouTube videos:

*Basic Search: Using Boolean Operators*

<http://www.youtube.com/watch?v=1mmdXFOyRDo>

This tutorial explains how to do a basic search using the Boolean operators or connectors AND and OR.

*Advanced Boolean Operators:*

<http://www.youtube.com/watch?v=RkCJNdetsml>

This tutorial explains why the order in which Boolean operators (AND and OR) are used is important. Prerequisite: Basic Search video.

2. Students will choose a topic. The same topic must be used for all three searches.
3. Using the Web of Knowledge database, students will:
  - a. Formulate a basic search using the Boolean operator AND.
  - b. Formulate a basic search using the Boolean operator OR
  - c. Formulate an advanced search using parentheses.
4. Using a screen capture tool (Grab, Snagit, etc.) students will show how they composed their search strategy.
5. After the search is executed, use the capture tools to show their results.

**In class:**

1. Working in groups of two, students will compare their search strategies and results. At this time, students can rework and reformulate their strategies and may ask the instructor questions.
2. Each group will be required to formulate three, new search strategies: two basic searches and one complex or advanced search.
3. Using a laptop and projector, each group will log into Web of Science and demonstrate for the class, their basic and advanced search strategies and results. At this time, their classmates may ask questions or provide guidance.

**In class assessment:**

1. Working individually, students will be given three topics and asked to formulate a search strategy for each topic.
2. Students will use a screen capture tool to show their search strategy in Web of Knowledge and again, after they execute their search.
3. Students will be asked to explain the difference between AND and OR

4. Students will be asked to explain why parentheses are necessary to execute a complex or advanced literature search