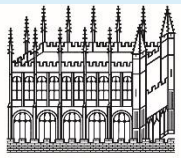
PLAY, PAUSE, REPEAT

Using video tutorials to teach information skills to Biochemists

Oliver Bridle, Radcliffe Science Library, Bodleian Libraries, Oxford



Bodleian Libraries
UNIVERSITY OF OXFORD

Background

- The Radcliffe Science Library is the main library for the sciences in Oxford
- The University offers a 4 year Biochemistry degree programme
- We have two timetabled library interactions with each cohort of students (~90)
  - *Library induction during fresher's week*
  - *2nd Year Information Skills session*
- Teaching provided by the Life Science Subject Librarians at the RSL
- Other sessions run as part of our generic 'iSkills' programme and one-to-one consultations on request

Changing the Teaching Technique

- The session is intended to equip students with the skills to locate scientific literature using the most useful tools and resources the library makes available.
  - Choosing appropriate resources/tools for research
  - Creating a search strategy
  - Searching the SCOPUS database
  - How to improve searching with wildcards, Boolean operators, refining etc.
  - Exporting search results

Old Format	New Format
• 90 minute session • Presentation • Some demonstration of tools and resources • Exercise sheet for students	• 70 minute session • Short linking sections of presentation • Set of 2 - 4 minute videos with exercises • Review of exercise answers

Why Change?

- Feedback from previous years –
  - *Session was too long*
- Information at the point of need
  - *Session not necessarily at the right time*
  - *Techniques and resources forgotten when they are needed*
  - *Not enough time to practice and fix skills during the session*
- Students are used to getting information through video
  - *YouTube*
  - *Academic sources such as the Henry Stewart Talks, Lynda.com, iTunesU*

What we Wanted

- Create a shorter session
- Break down information into chunks
- Focus attention on database searching techniques
- Produce a more interactive session to engage students
- *Produce an easily reusable online resource for students to refer back to later*

Needs compromise –

- Dropped some basic content on catalogue searching
- Removed quick introduction to reference management

Problems with Videos

- We have created videos previously
  - *Large investment of time to produce videos*
    - Learning software
    - Difficult to update
- We explored different options for creating videos
  - *Talked to our Bodleian Information Skills Coordinator*
  - *Decided to try an application called ‘Articulate Presenter 360’*

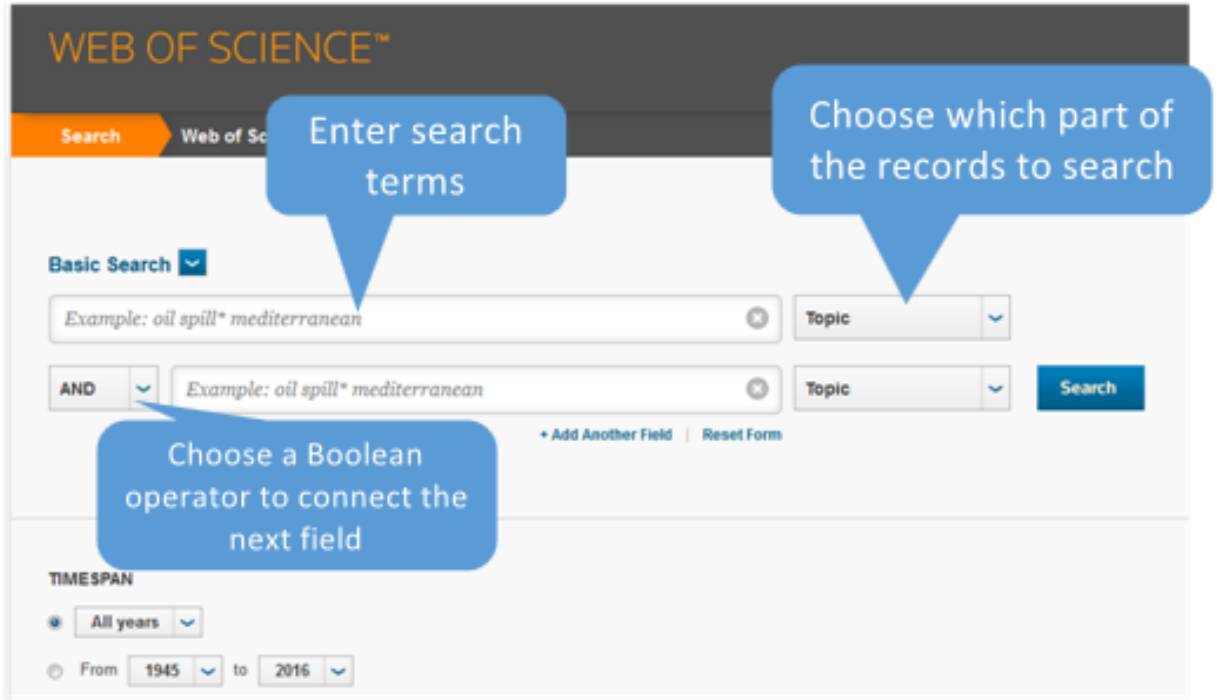
Menu

1. A Route to Literature Searchin...
2. Why step 3?
3. Searching in Scopus
4. Web of Science Core Collection
5. ProQuest Biological Sciences
6. Exercises

5. BiochemVid_BasicDatabaseSearch (00:52 / 01:18)

Resources

Web of Science Core Collection



PREV NEXT

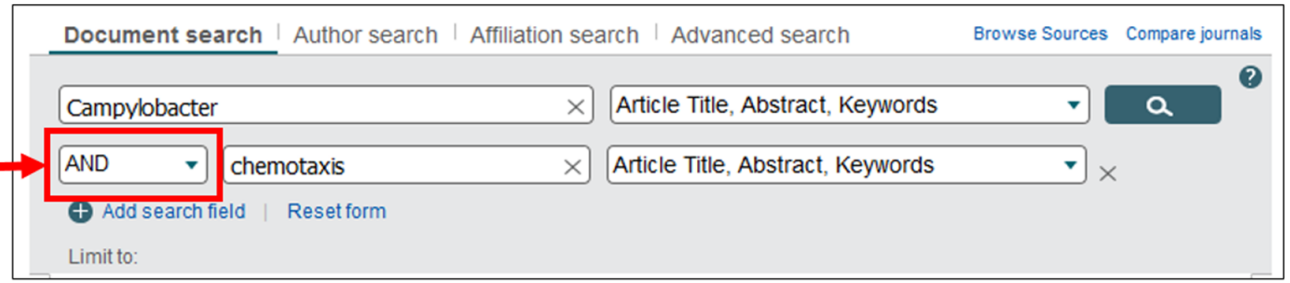
Creating Videos

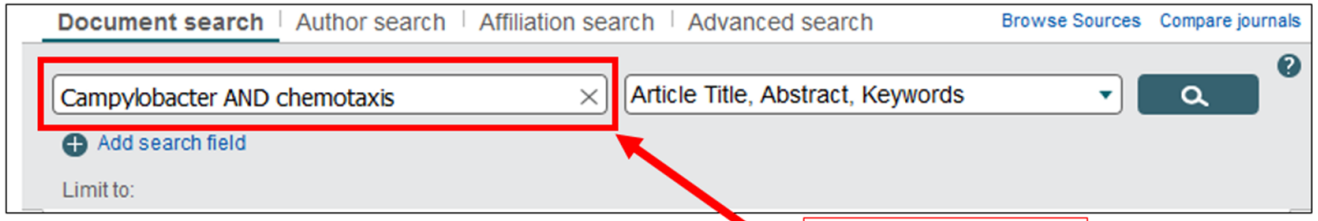
- Slides created with PowerPoint
- Articulate used to convert short sequences of slides into videos
- Videos saved as HTML5
- Uploaded onto our VLE WebLearn

4 OR Operator
5 NOT Operator
6 More complex searches
7 Entering Boolean searches in SCOPUS
8 Exercise

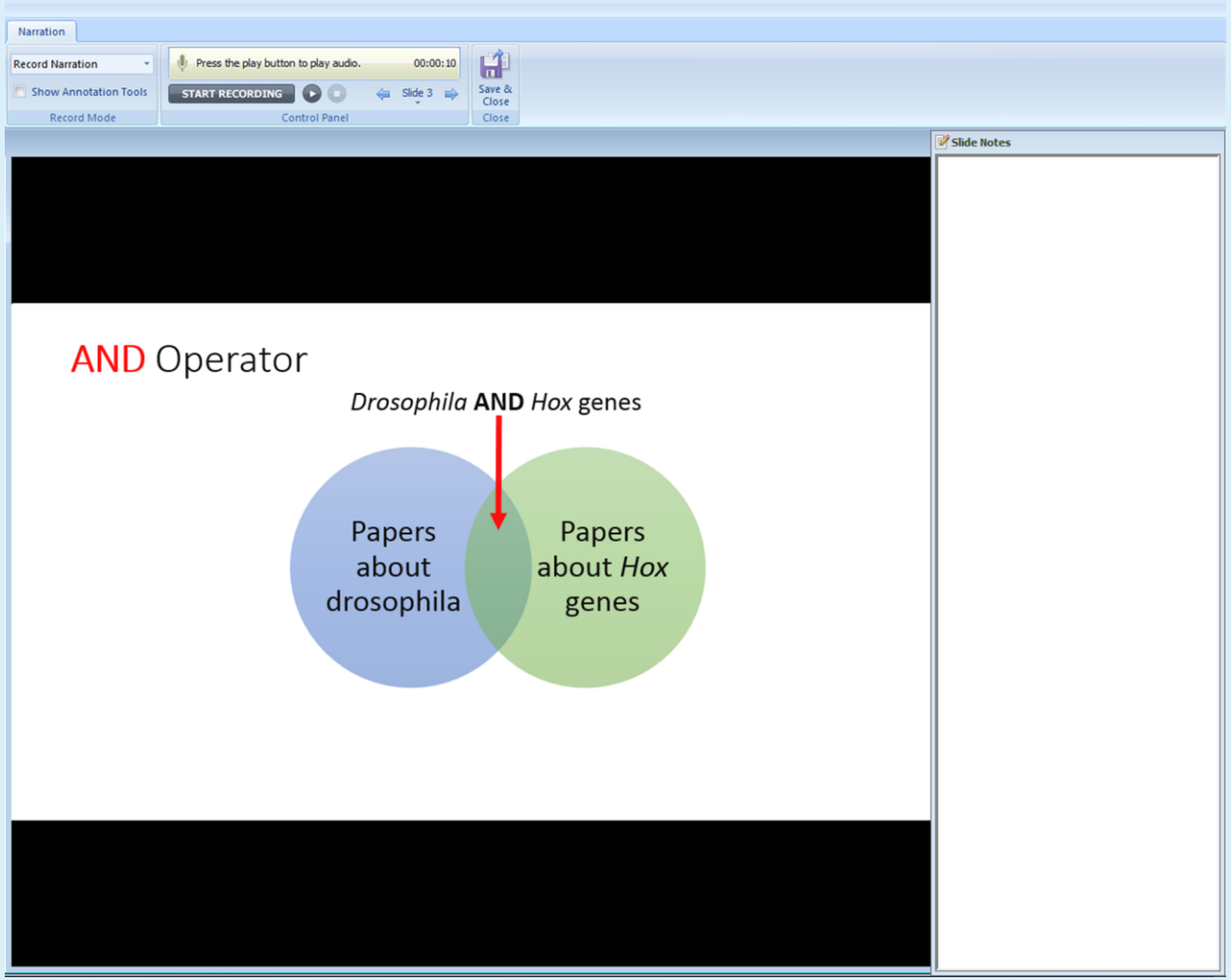
Entering Boolean searches in SCOPUS

Use the drop-down menus to choose an operator to connect search fields





You can also type out operators in a single field



Each slide is recorded. You can add audio recording.

Completed videos can be saved into a variety of formats including HTML5

Running the Session

- Short introduction
- Students asked to follow the videos
- Each video ends with questions and exercises
- Periodically the class is brought back together to review answers to questions and present the next section
- Two librarians are on hand to help with questions and monitor the student's activity

Results

- Impressions of the session –
  - Students seemed more engaged during the session
- Feedback (online survey with 46 responses)
- Look at how many times videos have been accessed at the end of the year

General Positive comments	Learning and changing research behaviour	General Negative comments
Well structured	Would now use a bibliographic database for research	Using reference managers was not understood
Useful/helpful	Many comments about learning about wildcards and Boolean operators	Timing of the session in the academic year – several comments that it would be better in the first year
No complaints about the length of the session		

What Next?

- Look at extending the format to other sessions
- Reviewing and improving the videos for next year
- Evaluating how easy it is to maintain video resources
- Sharing ideas with other staff members
- Finding other ways to make our sessions more engaging

Video Tips

- ✓ Keep them short – Quicker to make, quicker to update
- ✓ Make them mobile compatible - no Flash
- ✓ Make them easily accessible - no passwords

Acknowledgements

- Karine Barker – Life Sciences and Medicine Subject Librarian at the Radcliffe Science Library
- Angela Carritt – Bodleian Libraries Information Skills Coordinator

Example videos

- There are a selection of videos we prepared for the course opposite. To access the videos just follow the links.
- The following slides are taken from the short linking sections of the talk between the videos which we presented to students attending the session.
- Theses linking sections give extra information, summarise some of the exercise answers and make sure the students are up to the correct video.

Video 6 Wildcards and phrases

https://weblearn.ox.ac.uk/x/nKeV6v

http://tinyurl.com/BiochemVid6

Video 7 Boolean operators

https://weblearn.ox.ac.uk/x/z1Gfj8

http://tinyurl.com/BiochemVid7

Video 8 Refining searches

https://weblearn.ox.ac.uk/x/31Gx1I

http://tinyurl.com/BiochemVid8

Video 9 Sorting Results

https://weblearn.ox.ac.uk/x/raehro

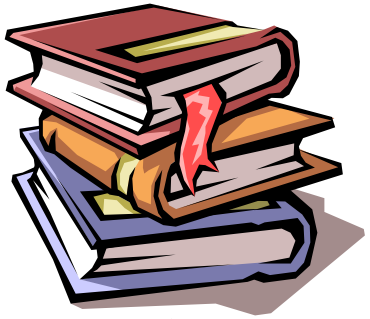
http://tinyurl.com/BiochemVid9

Video 10 Saving and Exporting

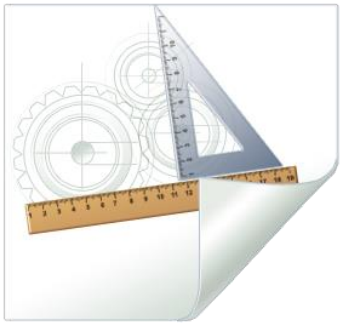
https://weblearn.ox.ac.uk/x/Gihxv5

http://tinyurl.com/BiochemVid10

• 120,000 books now indexed



• 27 million International patent records



SCOPUS

• Articles from 21,500 peer reviewed journals and 7 million conference papers

• Records of other databases included – Medline, Embase…

A Question

In what ways does the regulation of bacterial chemotaxis differ between G–ve and G+ve organisms?

Getting Started…

- Background reading
- Found lots of key words
  - Narrow these to a selection relating to aspects of regulatory systems
- Some oft mentioned organisms
  - *B. subtilis* (G+ve)
  - *E. coli* (G-ve)
- How do we get all this into a single search?

Constructing a search – Separate your concepts

Process	System	Organism
Chemotaxis / Chemotactic response	Two component regulators Histidine Protein Kinase Response regulator	*B. subtilis* *E. coli*

Your turn!

- Think about how you would break down one of the following questions (or use a topic you're currently interested in if you prefer!)
- Make a list of key words you think might help you to find papers relating to this topic
- You might find it helpful to lay out the information in a table which looks at the different aspects of the question
- **Don't start searching SCOPUS just yet!**

1. Describe the biological mechanism of apoptosis and how failure of this mechanism can lead to human disease.

2. Discuss the role of chromatin in transcription regulation, illustrate your answer with examples.

3. How do prokaryotes make use of sigma factors to regulate gene expression?

Alternative search terms

- Spellings (US/UK English)
- Numerals (Two, 2, II)
- Plurals (Bacteria/bacterium, cell/cells)
- Abbreviations (PCR/Polymerase Chain Reaction)
- Alternative names (adrenaline/epinephrine)

Now look back at your list of search words, can you add some alternative terms?

Alternative and related terms

1. Describe the biological mechanism of apoptosis and how failure of this mechanism can lead to human disease.

- Apoptosis
- Programmed cell death
- PCD

2. Discuss the role of chromatin in transcription regulation, illustrate your answer with examples.

- Chromatin
- Euchromatin
- Heterochromatin

3. How do prokaryotes make use of sigma factors to regulate gene expression?

- Sigma factor
- Transcription initiation factor
- RpoD (σ70) (sigma – 70)

Video 6

You can find the videos here –

Video 6

http://tinyurl.com/BiochemVid6

Dealing with variants using wildcards and phrases

1. Describe the biological mechanism of apoptosis and how failure of this mechanism can lead to human disease.

- Apopto*
- “Program* cell death”
- {PCD}

2. Discuss the role of chromatin in transcription regulation, illustrate your answer with examples.

- *Chromatin

3. How do prokaryotes make use of sigma factors to regulate gene expression?

- “Sigma factor*”
- “Transcription initiation factor”
- {RpoD} {σ70} “sigma – 70”

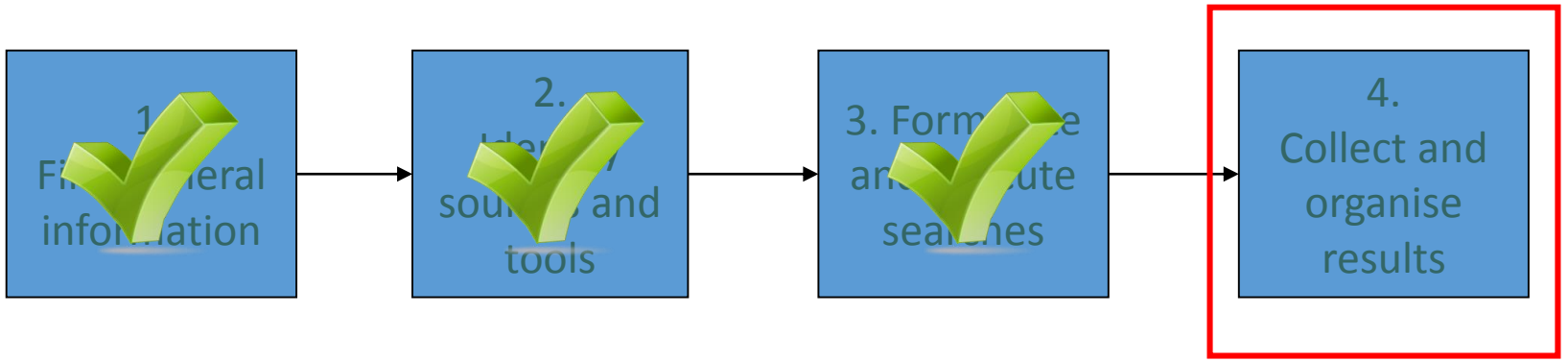
Video 7

You can find the videos here –

Video 7

http://tinyurl.com/BiochemVid7

A Route to Literature Searching. Step 4.



Watch video **8** to **10**

You can find the videos here –

Video 8

http://tinyurl.com/BiochemVid8

Video 9

http://tinyurl.com/BiochemVid9

Video 10

http://tinyurl.com/BiochemVid10