

Lesson Plan

Title: Finding, Evaluating and Managing Information		
Stage / School: Stage 2 - Engineering	Date of session: Summer Term	Duration: 120 mins
Type of Session: Interactive Lecture	Number of students expected: 231	
Context (<i>Is this session part of a series? Is it for a particular assignment?</i>): First Library session for group, the session will support the work they need to complete for their final year project.		
Aim(s) (<i>What is the purpose of the session?</i>): To equip the students with the knowledge of how to use NU Library resources and effectively apply search strategies appropriate to their discipline. Students will have a greater understanding of the purpose and practicalities of referencing in IEEE style.		
Learning outcomes (<i>what the students will be able to do by the end of the session?</i>): Students will be able to: <ul style="list-style-type: none">• Recognise the different types of academic information available in their subject area and explain why they might use them.• Discover and use a wider range of information sources.• Develop their own search strategy using advanced search techniques including BOOLEAN, synonyms and database refining options.• Recognise the limitations of Google and Wikipedia for the purposes of an academic literature search.• Construct an accurate reference for information types in their discipline.• Reflect on their own research skills and evaluate the quality of their findings.		
Pre-session work required by students: No	Resources Embedded on Blackboard: Lecture Slides ASK Finding Information Videos: https://internal.ncl.ac.uk/ask/searching-reading-notetaking Finding Information Subject Guide: https://libguides.ncl.ac.uk/finding Good and Bad examples of Search strategies Cite Them Right Tutorial Online Managing Information Subject Guide: https://libguides.ncl.ac.uk/managing	

Timings	Content/topic	Teacher Activity	Student Activity	Resources
2(2)	Introduction: Explain who we are and how we can help.	Explaining	Listening / observing.	Slides.
3(5)	Explain what we will be doing today/timings/expectations/tasks to complete during the session (handouts) and quiz at the end.	Explaining	Listening / observing.	Slides / 'fill in the blanks' note handouts.
Finding Information				
10(15)	Activity 1: Mentimeter Polls What information are you already using and where are you finding it? <ul style="list-style-type: none"> - Where do you currently find information for your studies? (multiple choice) - What types of information have you previously used for you assignments? (Free text answers) Discuss answers given in terms of what students already know and how this session will help them improve.	Explaining / facilitating.	Listening / taking part in Mentimeter polls	Mentimeter.
3(18)	What is a Search Strategy? Explain what a Search Strategy is and that we will next focus on the first two steps in developing a good search plan.	Explaining.	Listening/filling in blanks on their handout.	Slides.
6(24)	How to create a Search Strategy: <ul style="list-style-type: none"> • Keywords and synonyms (ways of finding them e.g. subject, Google – online thesaurus, databases – subject terms). • BOOLEAN searching • 360 degree searching on Google scholar and Scopus 	Explaining.	Listening/filling in blanks on their handout.	Slides.

10(34)	<p>Activity 2: What makes a good search strategy?</p> <p>Hand out 'Good' and 'Bad' search strategies – explain task and set timer. Students to review strategies individually and then discuss in pairs which one is better and why. Students to think about how to improve on the bad one.</p> <p>Students then vote on which strategy they think is best.</p> <p>Point out three ways the bad example could be improved using following slides:</p> <ol style="list-style-type: none"> 1. Use a range of information types 2. Use specialist databases 3. Think about limits <p>Extra improvements: More synonyms, use truncation and phrase searching</p>	Explaining.	Listening / participating individually and then in pairs / voting	Good and Bad search strategy example handouts /slides
6(40)	<p>Library Search demonstration:</p> <p>Explain/Demonstrate Library Search:</p> <ul style="list-style-type: none"> • Basic keyword search for: Clean technology AND fuel (everything except articles search) • Sort by newest and sign in top right to pin an item • Highlight: Biohydrogen Production being a print and eBook and how to access both • Scroll down in record to show online 'Browse the Shelf' feature • Change to advanced search: Clean technology AND fuel AND shipping AND industry (search everything) • Limit to peer reviewed and review articles (a good way into a new topic) • Click on 'Explore e-journals' to browse for current articles • Login to BrowZine and click through Engineering and Technology > Mechanical Engineering > Energy Engineering and choose IEEE Power and Energy Magazine to add to bookshelf (if click through gives opportunity to show IEEE Xplore full text) 	Explaining / demonstrating	Listening/filling in blanks on their handout.	Slides/Library Search.

3(43)	<p>Subject/Resource /Academic Skills Guides</p> <p>Demonstrate: Where to find them and what's in them. On Subject Guide focus on:</p> <ul style="list-style-type: none"> Books and eBooks - point out Knovel for data and properties searching as well as text chapters from key handbooks and engineering reference materials Journals and databases – going to look at these in detail after next activity. 	Explaining / Demonstrating	Listening/filling in blanks	Slides/Subject Guides.
7(50)	<p>Activity 3: Stand up, Sit Down Game (BOOLEAN in practice).</p> <p>Explain students are going to be my database – I'm looking to find out about favourite animals. Ask all to stand: Stay standing if ...</p> <ul style="list-style-type: none"> you like animals. you like animals AND your favourite animal has four legs you like animals AND your favourite animal has four legs AND a tail OR a mane you like animals AND your favourite animal has four legs AND a tail OR a Mane AND is NOT a member of the cat family. you like animals AND your favourite animal has four legs AND a tail OR a Mane AND is NOT a member of the cat family AND has a single horn on the top of its head <p>[Indian Rhinoceros (or Unicorn)]</p> <p>Note changes in number of 'results' depending on how 'BOOLEAN' is used.</p>	Explaining / directing game.	Listening / Participating in game	Slides.
10(60)	<p>Database demonstration – Scopus</p> <p>Search: "Green technology" AND Shipping</p> <ul style="list-style-type: none"> Highlight search options on search page and refine options on results page. Explain this is a bibliographic database so to access articles need the @NCL button Select 'Liquid Sunshine' example. In record highlight keywords, references, cited by, alternative options, links to Reaxys for Chemical engineers and export options. 	Explaining / demonstrating,	Listening/filling in blanks.	Slides/Scopus.
6(66)	<p>Database demonstration - Compendex</p> <p>Explain 'Controlled Vocabulary' (Turn on Auto Suggest)</p>	Explaining / demonstrating.	Listening/filling in blanks.	Slides/ Compendex.

	<ul style="list-style-type: none"> • Search: Clean Technology AND Shipping – only one result but when using controlled vocabulary = 25 results • Clean Technology (Auto suggest: Environmental Technology) • Shipping (Auto suggest: Freight Transportation) • Point out other suggested terminology (Carbon Dioxide) to narrow again if too many results. • Point out refine and sort by options. • In record highlight: abstract, other subject terms, links to authors, related docs, find @NCL and export options. <p>NB “Green technology AND Shipping gives 40 results – good idea to use a combination of controlled and non-controlled vocabulary.</p>			
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Evaluating Information

5(71)	Activity 4: Mentimeter poll Why do you use Google? Discuss results and why students should also use alternatives	Explaining / facilitating.	Taking part in poll,	Mentimeter.
5(76)	Google vs Library resources: understanding the limitations of Google and Wikipedia for an academic literature search. Explain why it is problematic to use only Google: <ul style="list-style-type: none"> • limitations of Google/Wikipedia. • benefits of making the most of paid-for resources and Newcastle University provision. • If you are going to use Google, you need to use it wisely. • Evaluate the resources you find: Use the CRAAP test to ask yourself: Is it Current, is it Reliable, is it Authoritative, is it Accurate, what is its purpose? 	Explaining.	Listening/filling in blanks.	Slides.
4(80)	Google like a pro (Video)	Playing video	Watching/filling in blanks.	Slides/video.

Managing Information

3(83)	Why reference? Explain importance of referencing	Explaining.	Listening/filling in blanks.	Slides.
4(87)	IEEE Style Discuss preferred referencing style for School and point out key features of IEEE style	Explaining.	Listening/filling in blanks.	Slides.

5(92)	Using IEEE Style Model how to construct accurate references for different types of information using IEEE.	Explaining / demonstrating.	Listening/filling in blanks.	Slides.
5(97)	Where to find referencing help: Demonstrate Cite Them Right Online for IEEE style. Point to sources of further help: Managing Information Guide/EndNote/FAQs/email.	Explaining and Demonstrating,	Listening/filling in blanks	Slides/ Cite them Right Online/ Managing Information Guide/ EndNote Guide/help page.
Plenary				
10(107)	Kahoot quiz – assess learning.	Running Kahoot quiz/ facilitating discussion	Taking part in quiz.	Kahoot
2(109)	Session feedback Ask any questions? Put on a post-it note something that they have learned and that they will use in future assignments.	Facilitating / answering questions.	Participating in post-it note activity.	Post-its/slides.