

Skills support for STEM students at the OU

Raj
Harrison
Open
University
Library



Information about the OU

- Distance learning HE Institution
- Over 150,000 students studying with the OU
- Over 20,000 disabled students
- Currently have 64,000 STEM students
- Majority of our students are in paid work and study part time.

OU qualifications

- Qualifications range from access modules, undergraduate and postgraduate qualifications
- Modules? Our qualifications are made up of 30 or 60 credit modules for example an UG degree would be made up of 360 credits
- Levels? Level is the year, level 1 = 1st year, level 2 = 2nd year, level 3 = 3rd year

Digital & Information Literacy (DIL) Framework

- Has been designed to support a consistent and structured approach to DIL skills development through qualifications across all the faculties.

The DIL Framework



Example of DIL skill



Digital and information literacy framework

	Level 1	Level 2	Level 3
Critically evaluate information, online interactions and online tools	<ul style="list-style-type: none"> ▶ Identify and apply appropriate quality criteria to evaluate pre-defined information, including personal contacts. ▶ Identify and apply appropriate quality criteria in a broad sense to carry out initial filtering of material from searches. ▶ Contribute a comment to an online discussion (e.g. forum, blog, wiki). ▶ Distinguish between instances of online tools on the basis of their relevance to the study context. 	<ul style="list-style-type: none"> ▶ Apply appropriate quality criteria to evaluate a range of resources (e.g. books, articles, websites, personal contacts) effectively. ▶ Apply appropriate quality criteria to filter results. ▶ Contribute useful feedback on others' contributions to an online interaction. ▶ Apply appropriate criteria to evaluating instances of online tools for their relevance to the study context. 	<ul style="list-style-type: none"> ▶ Use appropriate quality criteria to critically evaluate information from any source to determine authority, bias, etc. ▶ Use appropriate quality criteria to filter results from a given search output, and to focus on the most relevant information within documents. ▶ Engage in critical appraisal of others' contributions in an online interaction. ▶ Demonstrate the ability to evaluate online tools in any context.

Faculty policy

- The Faculty embedded DIL into their employability strategy
- Top level agreement that we would work to incorporate these skills into module material

Academic Liaison

- Help faculties shape module material to include DIL skills.
- How? Start at the beginning - Learning Design Workshops that are attended by faculty, academics, authors and module production teams.

Academic Liaison

- Attend module team progress meetings.
- Keep in contact and make sure we are included at the relevant stages.
- Read drafts and make suggestions as to how learning outcomes can be met by incorporating DIL activities.

2. COGNITIVE SKILLS:

Description of learning outcome(s)	Assessment method(s)
1. apply knowledge and understanding to address familiar and unfamiliar problems; summarise, analyse and synthesize scientific information and/or data	TMA 02, TMA 03, EMA
2. critically evaluate statements, different viewpoints and data to informed judgements based on scientific evidence	EMA
3. make informed judgements based on available evidence.	TMA 03, EMA

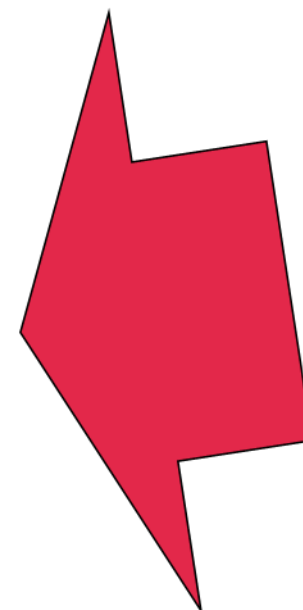
Mapping learning outcomes-S350

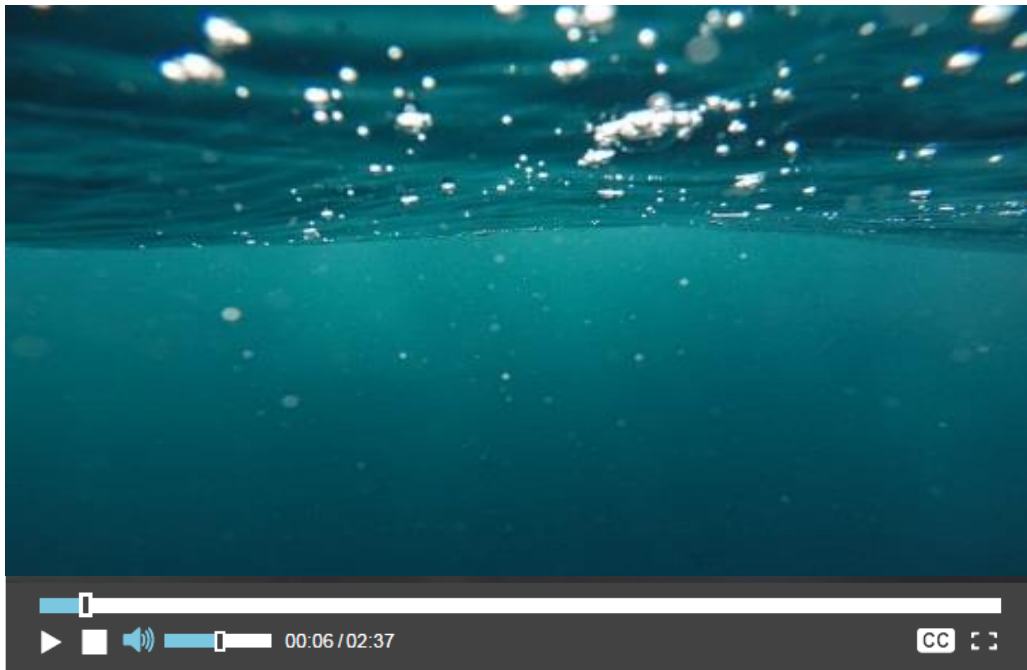
Mapping DIL



Digital and information literacy framework

	Level 1	Level 2	Level 3
Critically evaluate information, online interactions and online tools	<ul style="list-style-type: none"> ▶ Identify and apply appropriate quality criteria to evaluate pre-defined information, including personal contacts. ▶ Identify and apply appropriate quality criteria in a broad sense to carry out initial filtering of material from searches. ▶ Contribute a comment to an online discussion (e.g. forum, blog, wiki). ▶ Distinguish between instances of online tools on the basis of their relevance to the study context. 	<ul style="list-style-type: none"> ▶ Apply appropriate quality criteria to evaluate a range of resources (e.g. books, articles, websites, personal contacts) effectively. ▶ Apply appropriate quality criteria to filter results. ▶ Contribute useful feedback on others' contributions to an online interaction. ▶ Apply appropriate criteria to evaluating instances of online tools for their relevance to the study context. 	<ul style="list-style-type: none"> ▶ Use appropriate quality criteria to critically evaluate information from any source to determine authority, bias, etc. ▶ Use appropriate quality criteria to filter results from a given search output, and to focus on the most relevant information within documents. ▶ Engage in critical appraisal of others' contributions in an online interaction. ▶ Demonstrate the ability to evaluate online tools in any context.






- In Video 8.4, why are there growing concerns about the smaller plastic particles?

Reveal answer

Activity 8.2 Using PROMPT in evaluation

 Approx. 2 hours

This activity provides you with an opportunity to address the following learning outcomes:

- an appreciation of the current thinking as well as uncertainty, ambiguities and limits of scientific knowledge

In S350 students use a framework developed by the Library called **PROMPT** to evaluate a UNEP report and a Wikipedia article as part of studying plastics in the ocean

More examples....

What are standards?

Standards are guidelines developed to ensure that products and services adhere to characteristics such as quality and efficiency.

They are not mandatory but the BSI says:

If you comply with a British Standard then it's pretty clear that you take your responsibilities seriously as an organization, and indeed compliance is often taken as evidence of due diligence. It certainly speaks volumes about your attitudes to doing things properly.

However, standards aren't the same as regulations and following a standard doesn't guarantee that you're within the relevant laws. In fact standards rarely cite the law as legislation could change within the lifetime of the standard. (BSI, 2013)



In T176
Students
examine a
particular
standard
after
completing
the Library
activity

Contents

The research supply chain

Where does scientific information come from?

Watson and Crick

Initial discoveries

1953 - 1960: further dissemination

1960's: Popular publications

2003 onwards

Different formats in which information is packaged

Which type of literature?

Summary and reflection

Reference list

Within this document you last viewed: [Reference list](#)

Where does scientific information come from?

The research supply chain

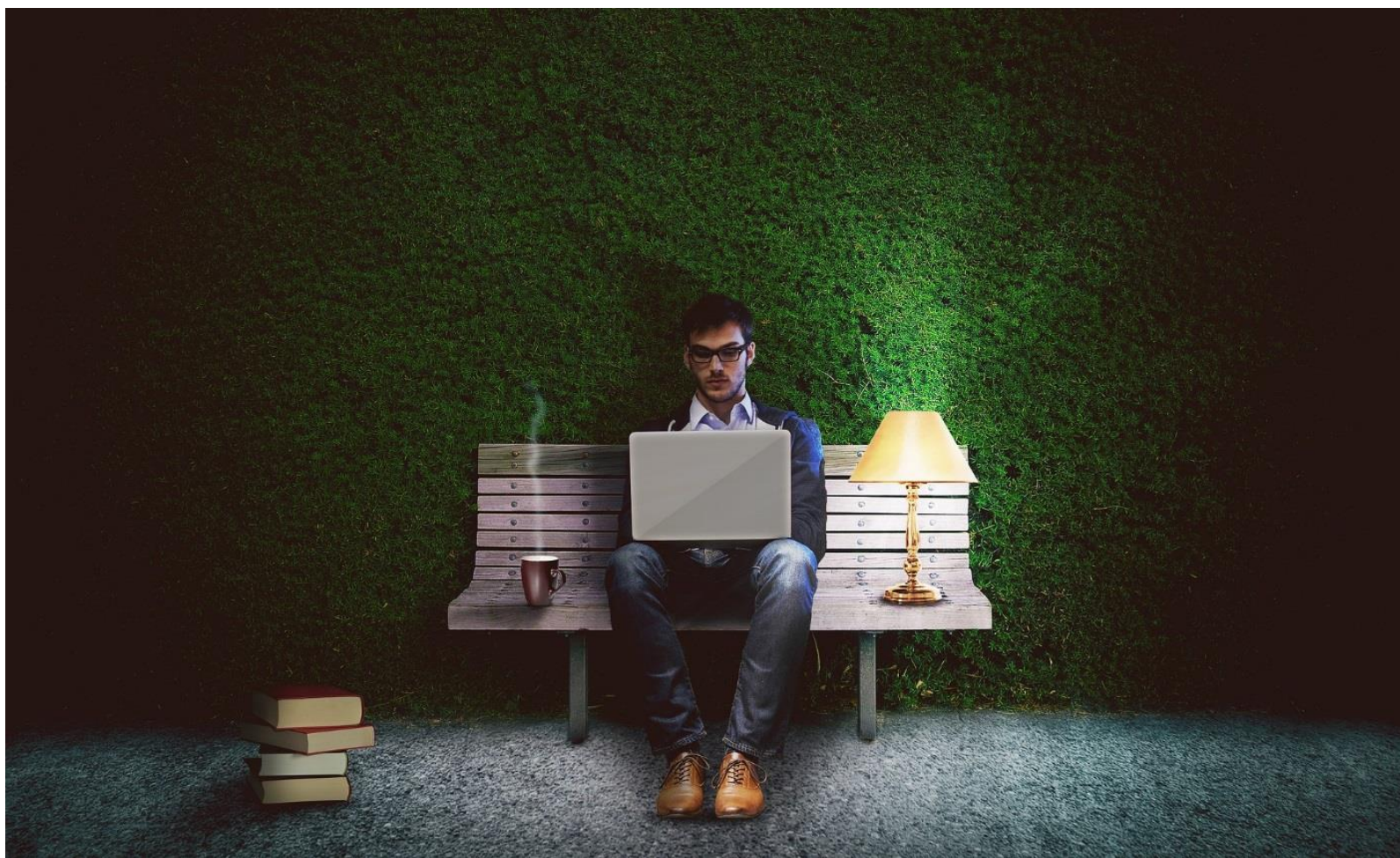
In this activity we will look at the research supply chain and the sequence of publications relating to the discovery of the structure of DNA by Watson and Crick. We will also examine different information types and how they relate to each other.



In S111 where students study DNA they are given a Library activity called 'Where does scientific information come from?' following the path of the research supply chain of Watson & Crick's original article

STEM Library training for distance learners

Fiona
Durham
Open
University
Library



Library live engagement

- Blackboard Collaborate
 - Generic Library programme
 - Targeted module sessions
- Livestream
- Facebook
- F2F (very occasionally!)

Marketing

- Link in module
- Group tuition
- News items on module
- Tutor recommendations



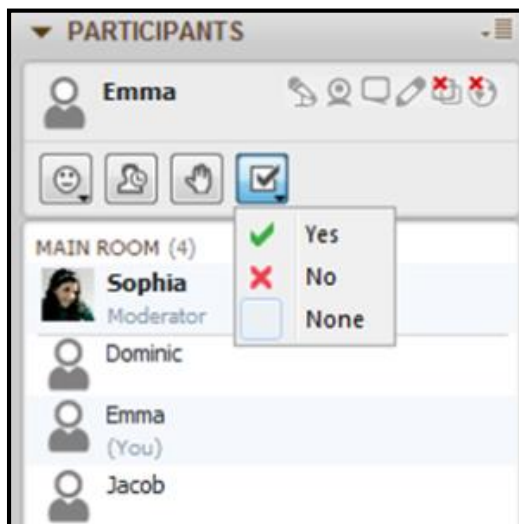
Welcome to this Library training session for S111 Questions in science

1. Please do the Audio Setup Wizard



(Tools > Audio > Audio Setup Wizard...)

2. Indicate whether you have a working microphone using the Yes/No options



CLICK  Yes
CLICK  No



Using the Library...

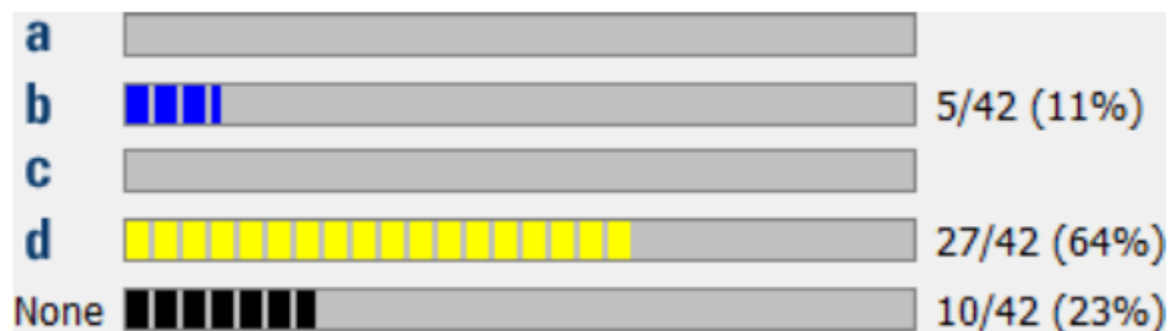
1. Please use the **polling buttons**:

A) Used it a lot

B) Occasionally

C) Once

D) This is the first time!



S111 science foundation – Learning Outcomes:

By the end of this session you should:

- Understand why it is important to acknowledge the sources you use in your assignments
- Start to learn to cite and reference books module materials, journal articles and websites

T452 Engineering project – learning outcomes

By the end of this session you will be able to:

- Develop a search strategy for your project
- Identify appropriate sources including specific databases
- Conduct searches and evaluate content using a variety of resources

S350 Evaluating contemporary science

- Citation Searching

- Why do citation searching?
- Citation databases
 - Web of Science
 - Scopus
- Google Scholar

Evaluation

Please fill in the evaluation form – click on the URL in the chat window

<http://www.open.ac.uk/libraryservices/illuminate>

- How did I do?
- What else do you need?

S390 Library help forum

[Help with this page](#)

Navigation

S390-16B

- ▶ Participants
- ▶ Badges
- ▼ Resources & forums
 - ≡ Assessment
 - ≡ Study resources
 - ≡ FAQs
 - ≡ Library resources
 - ≡ Module Resources
 - ☞ Cafe
 - ☞ General discussion
 - ☞ Noticeboard
 - ☞ **Library help**
 - ☞ SXE390
 - ☞ SXG390
 - ☞ SXL390
 - ☞ SXM390
 - ☞ SXN390
 - ☞ SXP390
 - ☞ SXL390 Tutor group forum
 - ☞ SXN390 Tutor group forum
 - ▶ Tutor forum
 - ☞ S390 Online meeting room
 - ☞ SXE390 Online meeting room
 - ☞ SXE390 Online tutorial room
 - ☞ SXG390 Online meeting room
 - ☞ SXG390 Online tutorial room
 - ☞ SXL390 Online meeting

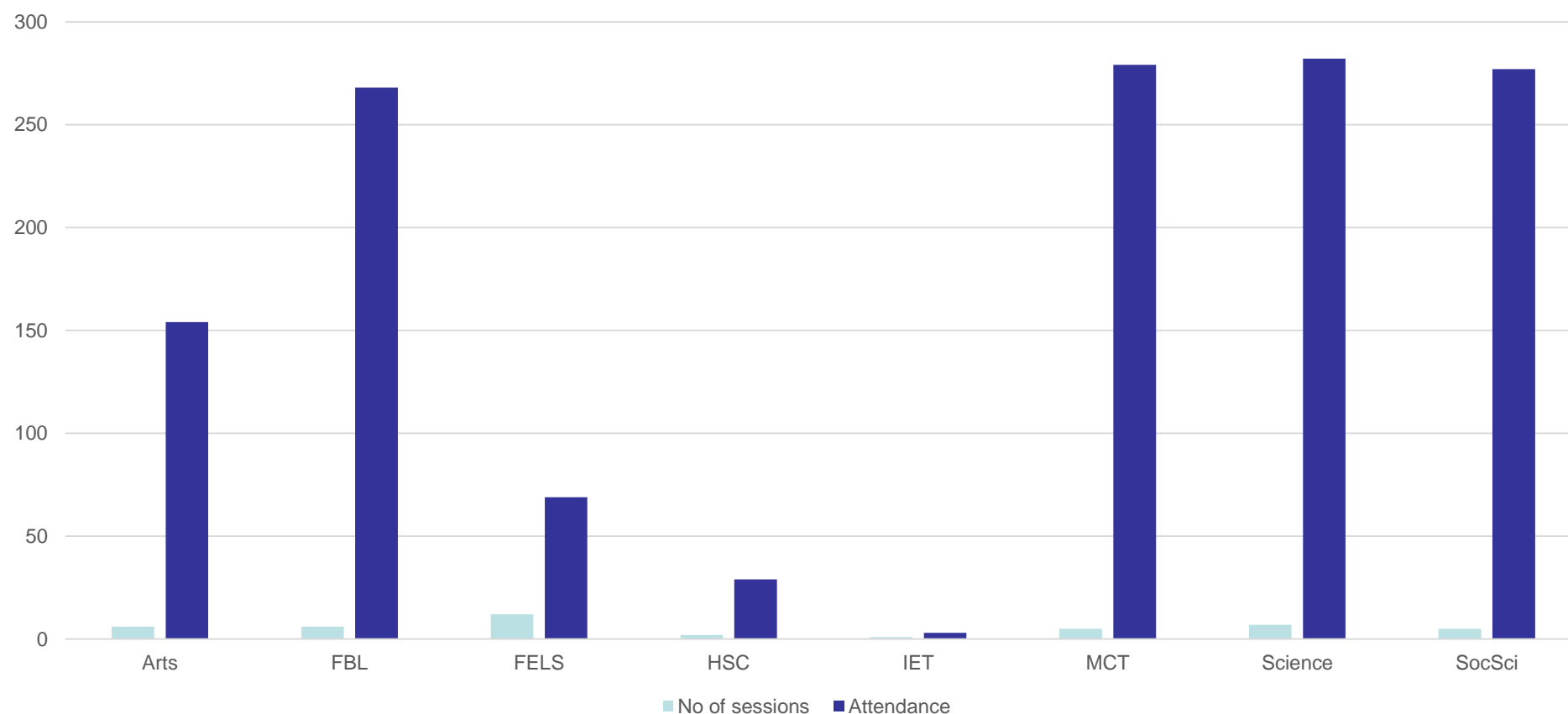
[Start a new discussion](#)

Page: 1 | [2](#) | [3](#) | [4](#) | [5](#) | [6](#) | [7](#) | [8](#) | [Next](#) →

Discussion	Unread
OU Live session on Referencing for S390	
Finding and accessing journal articles	
Hello from the Library!	
Open University Library Services closed on August Bank Holiday – Monday 29/08/16	1 ✓
Thanks to Library staff	9 ✓
Library Advice	1 ✓
Pre-print papers	0
Press Release	0
Referencing authors with a hyphen in their name	2 ✓
Referenced material was freely available, now not	2 ✓
Referencing for tables?	2 ✓
Referencing an online dictionary	0
PDF from Researchgate	3 ✓
Referencing rows in a table	2 ✓

Online training numbers by Faculty

Attendance at OU Live targeted sessions by faculty (2015-16)



Livestream TV – Referencing session



Facebook events



Apps Google Google Scholar OU Life - Open U Google Translate Library Services Course: DoL Lang OpenTree

Find friends

Fiona Home Find Friends

Fiona Durham
Edit Profile

The Open University Library

MY EVENTS

- Upcoming
- Calendar
- Subscribed
- Past
- Create

The Christmas presence
you've always wanted

DEC 15 The Christmas presence you've always wanted.
Preserving your digital identity over the festive season

Public - Hosted by The Open University Library

Going Invite Edit

Tuesday, 15 December 2015 at 19:00–20:00
about 9 months ago

The Open University Library
The Open University, Walton Hall, MK7 6AA Milton Keynes [Show Map](#)

About Discussion

EVENT TIPS

Create new event

Have another event by The Open University Library coming up?
Create an event to let people know about it.

Create

The Open University Library posted 6 stories.



The Open University Library

Published by Helen Clough [?] · 1 hr ·

Our librarians will be running a 30 minute Q&A session via Facebook Live on Thursday 1st December at 7pm. We've booked the room and tested the technology, now all we need is your questions! If you are unable to attend on the night then please do still send us your questions (via the comments on this post). We are planning to make a recording available. Looking forward to seeing some of you there!

<https://www.facebook.com/events/555851397950787/>



Facebook Live Trailer Decembe...

How do I find books and articles? Can I access o...

YOUTUBE.COM

<https://www.youtube.com/watch?v=z0DSR9vDKPs>

Links mentioned

- Live engagement and Library Services
<http://learninginnovation.open.ac.uk/like/enhancing-teaching-learning-and-student-engagement/live-engagement-and-library-services/>
- The Student Hub Live <http://studenthublive.kmi.open.ac.uk/>
- Student Hub Live referencing session
<https://www.youtube.com/watch?v=OGwU0Hc4JkY>
- Facebook events page <https://www.facebook.com/OULibrary/events/>
- Images from Pixabay <https://pixabay.com/>