Support for Research and Doctoral Students

The following guideline provides advice on using Library resources for research, information on research-related issues (such as copyright, open access, assessing journal impact and data protection), software to assist your research and links to E-Books on a wide range of research skills. ***Note - some of the following links will require opening this guide in PDF format, then following links shown.***

Research LibGuide

In addition to the guide below, you can also access our Research 'LibGuide' http://libguides.liv.ac.uk/researchsupport including information on the University research archive, research skills tutorials, citation analysis/ bibliometrics, copyright and open access, keeping up to date, managing your references and referencing skills.

Plagiarism and Referencing

When you write your assignment or dissertation you are required to refer to the work of authors. Each time you do so, it is necessary to identify their work by making reference to it in your written work.

- The Library's main Referencing page provides information on oncampus seminars.
- Online students see the Referencing page within the Library for Online Programmes for information on citing sources used in your work, compiling your bibliography and using Referencing software such as *Refworks* to manage your references.

Plagiarism is displaying someone else's ideas as your own. If you don't know when to cite and reference the sources you have used, you may be guilty of plagiarism without realising it. Please read our guide on Plagiarism. Also see the University policy Plagiarism, Collusion and the Fabrication of Data.

Literature Review

During your studies you will need to review the literature available for your subject area, assignment topics or final written project. The process of reviewing library resources available is sometimes called the Literature Review and is particularly important when planning and developing your final Thesis or Dissertation.

There are several occasions when you need to carry out a review of available literature:

- When reviewing background literature for your general subject area - i.e. developing a knowledge of the subject by familiarising yourself with available sources and academic works.
- When reviewing available literature and sources for particular assignments, group work, discussions etc.
- When reviewing available literature and sources for your final written project, e.g. Dissertation or Thesis.

Please see our guideline on [Carrying out the Literature Review](#) for further details.

Systematic Review

Doctoral and Masters students will conduct a literature review at key stages of their studies (see above), but may also need to use a more formal literature review process based around case studies, this is often called Systematic Review.

Systematic Review usually consists of developing a search strategy built around topical terms related to the research question, then identifying a number of case studies to evaluate. If you are using a Systematic Review approach for your final written project, this should be defined in your research proposal or methodology.

There are a number of Systematic Review models, some of these are shown below. You should follow any special instructions for conducting a Systematic Review provided by your programme of study. Please contact your Librarian or tutors if you have any questions on the systematic review *(see [list of Liaison Librarians](#) and [Librarian for Online Programmes](#)).*

Systematic Review models (mostly health related):

- [Cochrane Handbook for Systematic Reviews of Interventions](#)

- [Evidence for Policy and Practice Information and Co-ordinating Centre](#)
- [PRISMA systematic review model](#)
- [Centre for Reviews and Dissemination](#)

Bibliographic Databases

Bibliographic Databases (sometimes called Bibliographic Indexes, Citation Indexes or just Databases) provide extensive coverage of online sources. Bibliographic Databases contain 'abstracts', i.e. descriptions about scholarly works, however online access is often available via a 'Is it @ Liverpool' link. Bibliographic Databases also provide information on usage trends and other data describing the importance of scholarly publications (see the section *Bibliometrics & Research Impact* below).

Major Bibliographic Databases include:

- SCOPUS - including particularly good coverage for medicine, life sciences, economics and other technical fields, but also some coverage for business and the arts.
- Web of Knowledge - an interdisciplinary database (you can also select the 'Web of Science' tab within this database to search only medical, technical and scientific fields).

You can access Bibliographic databases such as SCOPUS or Web of Knowledge from the Library Web pages, for suggested Databases in your subject area see our [LibGuides](#) or [Databases A-Z](#). (online students, see the [E-Resources](#) area of the Library for Online Programmes).

Theses and Dissertations (and the University Research Repository)

Your studies will benefit from reading comparative Theses or Dissertations (research projects carried by postgraduate students at the end of their studies). A Dissertation usually refer to a research project carried out as part of a Masters degree, whilst a Thesis (plural Theses) is carried out as part of Doctoral studies.

Students undertaking doctoral theses will need to submit their work into the Research Repository on completion of their thesis, but should not do so until they have received notification asking them to begin this process. For information about our Research Repository see the [Library research pages](#), online students please see our help page on [using the repository](#).

The University holds recent online Theses submitted at the University of Liverpool available via our [Research Repository](#), however the University does not hold any University of Liverpool Masters Dissertations online or within the Library.

Note - Students with Laureate Education have access to past dissertations submitted for online programmes, please contact your tutor for details.

You can locate worldwide Theses and Dissertations by searching the 'Theses and Dissertations' databases from the Library Web site. Online students please see the [E-Resources](#) page. If your required Thesis or Dissertation is not available for immediate download you may be able to obtain this using the [Ethos](#) service for UK theses only.

Research Tools and Software

The Library supports a wide range of applications and software to assist your research and information skills, such as *Calibre* to store and manage your downloaded PDFs and e-books and mobile apps for using platforms such as *Discover* on your mobile device.

A list of open source and freely available applications and statistical analysis packages is provided in the Library for Online Programmes [applications](#) page for details. Please note these applications are typically unsupported by the University IT Helpdesk and not specifically recommended for your programme of study, you should consult your academic tutors/ advisors on the appropriateness usage of these applications.

ou can also consult your academic tutors regarding software applications you may be expected to use as part of your studies, or applications you may be provided or asked to use via the University network.

Also see our Web Based Applications at http://apps.liv.ac.uk

Peer Reviewed Journals/ Articles

Many academic or professional journals use a system called 'Peer Review' to ensure the quality of published material, this usually involves the review of article submissions by prominent experts or academics within the same subject area.

If you wish to search for peer reviewed articles use the Peer Review search filter in the *Discover* platform.

You can check if a specific journal is peer reviewed by visiting the *Discover* homepage (see the E-Resources page for individual links), then search for the journal title, when you see the journal name listed, click the title. You will see an outline of the journal, click 'View this journal online', you will see a more detailed table of contents, scroll down to see if the journal is peer reviewed.

The SCOPUS search platform is solely comprised of peer reviewed publications.

Intellectual Property, Copyright, Patents and Data Protection

Intellectual Property or IP refers to the rights held by individuals to their original works, IP is defined in national and international agreements and is reflected in Copyright legislation (see Copyright information below). Intellectual Property rights also provide the foundation for a wide range of commercial legislation and agreements in areas such as Trademarks and Patents. Intellectual Property is an important factor for academic writers when developing collaborative works e.g. with partner organisations or other authors or when compiling a contract with publishers to define commercial, distribution or ownership rights.

- [Introduction to Intellectual Property](#) - provided by the World Intellectual Property Organization.
- [Directory of Intellectual Property government agencies](#) - provided by the World Intellectual Property Organization.

Patents are formally defined outlines, treaties or schematics defining the rights holders of industrial or other creative processes, designs, systems or other creative works. Patents are primarily important for commercial control and retention of product rights.

- [Introduction to Patents](#) - provided by the UK Intellectual Property Office.

Copyright is the term applied to regulation and control of intellectual and commercial ownership of literary, musical, software or other works. Copyright allows for the legal and commercial preservation of copying and distribution rights for works, as such copyright is an important legal instrument for publishers and authors. Copyright is important for controlling the dissemination of academic texts in the education sector,

defining how texts can be reproduced, scanned and disseminated; the UK Copyright Licensing Agency (CLA) provides a framework for licencing the reproduction and dissemination of academic texts within strict boundaries and processes for partner organisations/ users. Whilst copyright is defined under national legislation for most countries, copyright is also governed by wider regional/ international agreements.

- [Introduction to Copyright](#) - provided by the UK Intellectual Property Office.
- [Copyright Licensing Agency (CLA)](#) - the UK Government copyright licensing agency.
- [International Copyright Legislation/ Agreements](#) - provided by the World Intellectual Property Organization.

Data Protection defines responsibilities on organisations and individuals to safeguard and control access and dissemination of personal data, such as private/ sensitive personal information. You should be particularly aware of data protection responsibilities for the collection and management of data from human subjects when carrying out research projects. Data protection is defined by legislation in many countries and regions, you should ensure you are familiar with data protection regulations or legislation for your region; if you are undertaking an academic programme of study you should also observe any data protection policies required by your programme.

- [Data Protection explained](#) - provided by the JISC UK Higher Education agency.
- [European Union Convention for the Prtection of Individuals](#) - Council of Europe Data Protection Agreement.
- [European Parliament directive 95/46/EC](#) - European Union Data Protection directive.

Research Ethics/ Ethical Approval for Research

It is important to obtain appropriate ethical approval to carry out research projects, this can involve issues related to interview of persons or use of sensitive information. You should consult your research supervisor to ensure you have met all ethical approval requirements and procedures to carry out your project.

- [University of Liverpool research pages](#)
- [UK National Research Ethics Service](#) - an NHS clinical-focused research ethics framework.

- [Economic and Social Research Council Framework for Research Ethics](#)

Keeping up to Date and Disseminating your Research

During your studies you should maintain an awareness of current information sources, publications, research and news related to your academic or professional subject. Channels for keeping up to date with your subject area include:

- Academic email lists (such as [JISCmail](#)).
- Table of Contents software to quickly view new article publications (see the [Applications](#) area of the Library for online programmes).
- Viewing Library News to view new Library subscriptions/ collection/ E-Journals etc.
- Also see online resource for funding and research opportunities e.g. [Research Professional](#).

Disseminating your Research

If you are working at Doctoral level or seek to become active in writing within your subject area you should consider discussing or sharing your own research, theories or writing. NOTE - you should discuss any publication of coursework created for your programme of studies with your tutors before disseminating this online, this is because publishing your coursework could incur occurrences of plagiarism and collusion allowing others to plagiarise.

Original research works can be disseminated via research network Web sites, such as:

- [Academia](#) - general research portal.
- [Research Gate](#) - sciences and social science research (also see [Introduction to Research Gate](#) for Scientists).
- [Social Science Space](#) - Social Sciences research.
- [Method Space](#) - general research portal.
- [Communication Space](#) - Media & Communications research.
- Blogging tools to record your views or commentary (such as [Blogger](#), [Twitter](#) or [WordPress](#)).

- Present your work at conferences and seminars - for upcoming events consult scholarly publications, email discussion lists (such as JISCmail) or Web portals for your subject area.

If you wish to publish your own research works online you can upload your work via a repository system. Repositories are online collections operated on a non-profit basis according to principles of Open Access for free public retrieval of content. Most Universities and related research organisations operate their own research repository or archive, allowing organisation members to upload research materials. When you upload a research paper to a repository you should ensure this meets the required standards and formatting described in the repository. Whilst most institutional repositories restrict uploading to internal members, a few organisations provide public access to upload content, one of these is the Munich Personal Archive (Economics repository).

Note - most Open Access repositories can also be searched via major repository searching platforms such as OAISTER (see the E-Resources / WWW area of the Library for Online Programmes for links to repository search platforms). The Research Archive of the University of Liverpool allows researchers and academic practitioners of the University to upload research papers, this does not include Masters or taught doctoral dissertations/theses.

If you are sharing your own research works or associated media, you should consider sharing these materials via a formal license to define the copyright and licensing status of your work. The Creative Commons framework provides a range of freely available licenses which you can apply to your work, see http://creativecommons.org - also see the following presentation on Creative Commons licenses.

Journal Bibliometrics / Research Impact

The Library provides a wide range of platforms for viewing the research impact of academic research. Evaluating the impact of an individual author, subject area, specialism or industry can assist you in selecting the most relevant and important source material for your own academic writing and research.

The following guides and presentations provide an introduction to journal bibliometrics:

- Introduction to Journal Bibliometrics / Research Impact
- Table of Journal Impact Standards
- Accessing Personal Author Impact Statistics
- Using Bibliometrics / Research Impact in the SCOPUS platform

Foe these guides and additional video/ tutorials see the Research Support LibGuide, online students also see our guides and tutorials on journal and author rankings.

Data Sets and Data Mining

Data sets provide raw or systemised research in the form of population, medical, economic or other data types, the process of 'data mining' refers to the process of discovering and interpreting data sets to obtain useful patterns, trends or other observations from data to develop new research theory. You may find existing data sets provide a useful contribution to your own research. Data sets are derived from prior scientific, economic, social or other research projects or major government or statistical agencies. Data sets may be unique or represent longitudinal studies over may years or decades. You should consult your tutors/ dissertation or thesis advisor regarding the academic appropriateness or usage of data sets.

Sources of data include the following:

- Research Pipeline (directory of data sources).
- StatLib (portal to data sources provided by Carnegie Mellon University).
- DATA.GOV (US Government data sources on a wide range of social, economic, industrial and international areas).
- DATA.GOV.UK (UK Government data).
- Global Change Mastery Directory (portal to geographical and biosciences data sources).
- Google Public Data Explorer (portal to data available freely on the WWW).
- DMOZ (Datasets listed on DMOZ Web Directory).

Also see data sources under the 'Data' area of the E-Resources page of the Library for Online Programmes

Academic Writing and using English

Please see the following suggested guides for developing academic writing skills. You should always consult your tutor if you are having difficulties with your written work, writing your Dissertation project or having problems with the use of English.

- Purdue University Writing Lab
- Aries (Assisted Revision in English Style)
- Business writing skills
- Using English for Academic Purposes
- Online Writing Lab (using English as a second language)

Video and Tutorials

See our Research LibGuide for video resources. If you are an online student, also see video and interactive tutorials provided via the Library for Online Programmes.

Research related e-books available via the Library

The following tables indicate available e-books on research topics, methods etc..:

E-Books on Writing for your Assignments, Thesis, Dissertation

Title	Year	Author	Direct Link to E-Book
Dissertation research and writing for construction students	2007	Naoum, Shamil G.	E-Book
Dissertation writing for engineers and scientists	2009	Breach, Mark	E-Book
How to survive your viva : defending a thesis in an oral examination	2003	Murray, Rowena	E-Book
How to write a thesis	2006	Murray, Rowena	E-Book
Legal Writing	2005	Webley, Lisa	E-Book

Research in Medicine : Planning a Project / Writing a Thesis	2010	Juliet Usher-Smith	E-Book
Research skills for management studies	2004	Thomas, Alan	E-Book
Researching and writing a dissertation : a guidebook for business	2007	Fisher, Colin M	E-Book
Revising your dissertation: advice from leading editors	2004	Luey, Beth	E-Book
Students must write: a guide to better writing in coursework and examinations	2005	Barrass, Robert	E-Book
Surviving your thesis	2004	edited by Suzan Burton, Peter Steane	E-Book
The Research project : how to write it	2000	Berry, Ralph	E-Book
The student's guide to preparing dissertations and theses	2004	Allison, Brian	E-Book
Thesis Projects : A Guide for Students in Computer Science and Information Systems	2008	Berndtsson, Mikael	E-Book
Writing Up Your University Assignments And Research Projects A Practical Handbook	2008	Murray, Neil	E-Book
Writing and Presenting Research	2006	Thody, Angela	E-Book
Your research project : how to manage it	2005	Hunt, Andy.	E-Book

E-Books on Research Skills

The following are suggested e-book titles for helping you undertake your research:

Title	Year	Author	Direct Link to E-Book
Data collection planning for and collecting all types of data	2008	Phillips, Patricia Pulliam	E-Book
Getting a PhD: an action plan to help manage your research, your supervisor and your project	2005	Finn, John A	E-Book
How to get a PhD : a handbook for students and their supervisors	2005	Phillips, Estelle	E-Book
Interviewing for education and social science research	2009	Mears, Carolyn Lunsford	E-Book
Mastering Your PhD : Survival and Success in the Doctoral Years and Beyond	2006	Gosling, Patricia	E-Book
Mixed Method Data Collection Strategies	2009	William G. Axinn	E-Book
The Essence of Research Methodology	2010	Jonker, Jan	E-Book
The unwritten rules of PhD research	2007	Rugg, Gordon	E-Book
Undertaking Sensitive Research in the Health and Social Sciences : Managing Boundaries, Emotions and Risks	2009	Virginia Dickson-Swift	E-Book

E-Books for Research Methods

The planning and design of your research project should be informed by reading about research methods and approaches, we provide a range of E-Books dealing with research design, carrying out research for specific subject areas and methodologies such as Action Research, Grounded Theory etc.

Methodology	Catalogue Link
Action Research	[Items on Catalogue](#)
Constructive Research	[Items on Catalogue](#)
Critical Social Research	[Items on Catalogue](#)
Dialectical research	[Items on Catalogue](#)
Discourse analysis	[Items on Catalogue](#)
Empirical Research	[Items on Catalogue](#)
Ethical Inquiry Research	[Items on Catalogue](#)
Ethnographic Research	[Items on Catalogue](#)
Exploratory Research	[Items on Catalogue](#)
Foundational Research	[Items on Catalogue](#)
Grounded Theory	[Items on Catalogue](#)
Hermeneutics	[Items on Catalogue](#)
Historical Research	[Items on Catalogue](#)
Phenomenology	[Items on Catalogue](#)
Philosophical Research	[Items on Catalogue](#)

Primary Research	[Items on Catalogue](#)
Qualitative Research	[Items on Catalogue](#)
Quantitative Research	[Items on Catalogue](#)
Scientific Research	[Items on Catalogue](#)
Secondary Research	[Items on Catalogue](#)

Further Help

If you have any questions please contact your Librarian *(see [list of Liaison Librarians](#) and [Librarian for Online Programmes](#)).*

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