# Task Analysis

# List of Tasks: Introduction to Grey Literature

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# Breakdown of Tasks:

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| Module | Specific Task | Assessment |
| 1 Introduction | Welcome to the Grey Literature modules!These modules will take roughly half an hour to complete |  |
| 1.1 Learning Outcomes | After the following lessons, you will be able to:1. Explain what grey literature is and how it is different from traditional academic and commercial sources
2. Identify sources of grey literature that are available through the Library and openly accessible on the Internet
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| 1.2 What is Grey Literature? | **Definition****“Grey literature”** is a term that is notoriously difficult to define, with hard boundaries often impossible to draw. It is also known as *fugitive* or *invisible* literature due to its elusive nature. A commonly cited definition is that grey literature is information “produced on all levels of government, academia, business, and industry in electronic and print formats…not controlled by commercial publishers; i.e. where publishing is not the primary activity of the producing body”* The Twelfth International Conference on Grey Literature in Prague

(<https://guides.mclibrary.duke.edu/sysreview/greylit>)Grey literature features in many disciplines and professions as diverse as engineering, archaeology, and health and takes on particular characteristics depending on the context.**Grey Literature in Context**To clarify this further, grey literature can be understood by focusing on three factors: 1. the nature of the documents concerned,
2. the types of producers and
3. the means of dissemination.

It is useful to contrast grey literature with **white literature**.White literature refers to the types of content produced and sold my publishing companies, including **scholarly journals, trade journals**, and **popular magazines**. These publications are generally part of a managed system of production and dissemination resulting in large-scale collection and preservation by libraries.Grey literature, on the other hand, is a much more diverse and heterogenous type of research material, which is typically outside of traditional academic peer-review or editorial review processes. Given the breadth of sources that can be considered “grey literature,” and the challenge of gathering them together in one place, grey literature is often excluded from large databases and other mainstream sources.**Grey Literature Quality** Graphical user interface, application  Description automatically generatedThis figure, created by Adams, Smart and Huff (2016), demonstrates that experts generate a range of material that may be of interest to researchers. However, prominent outlets sometimes publish unreviewed material written by people with unknown experience and training. Often, the most authoritative and relevant material is in the middle: representing the many government reports, informational articles, industry publications, and so on that may be of interest even when the publisher is unfamiliar.Given that the boundaries between tiers can be fuzzy, you need to be careful when making decisions about the grey literature you use to support your research questions. For example, although it’s often more difficult to determine the source and outlet of a tweet, in a closed conference of experts, the source and publication of tweets might be better classified as “1st Tier” or “2nd Tier” grey literature. (<https://www-tandfonline-com.proxy.lib.uwaterloo.ca/doi/full/10.1080/00048623.2015.1081712>) (<https://www.lib.sfu.ca/help/research-assistance/format-type/grey-literature>) (<https://onlinelibrary-wiley-com.proxy.lib.uwaterloo.ca/doi/full/10.1111/ijmr.12102>)  |  |
| 1.2 Types of Grey Literature Documents | Grey literature can take many forms!Some examples include:* Abstracts
* Blogs
* Brochures
* Call for papers
* Conference posters
* Datasets
* Discussion papers
* Essays
* Fact sheets
* Government documents
* Lectures
* Legislation
* Manuals
* Memoranda
* Notebooks
* Pamphlets
* Pre-prints
* Press releases
* Patents
* Reports
* Reviews
* Risk analyses
* Scientific protocols
* Standards
* Survey results
* Websites
* White papers
* Working papers

[GreyNet’s list](http://www.greynet.org/greysourceindex/documenttypes.html) shows more examples of grey literature. |  |
|  1.3 Why Use Grey Literature? | The Internet has profoundly changed how we produce, use, and collect research and information, with grey literature and data playing an increasingly important role. There are several reasons for this: * Occasionally, grey literature may be the only source of information for specific research questions.
	+ **Example**: A researcher is trying to learn more about a private company’s contributions to technology innovation. This corporation does not publish research online and is not affiliated with any research institute or university research program. The researcher decides to search for patents held by the company, which provide them with a highly detailed explanation of different technologies it has developed.
* Given the lack of publication length requirements, grey literature may contain more information than traditional scholarly sources. This can help provide policy context and other implications not found in published literature.
	+ **Example**: A researcher is looking for information on the topic of strategies to increase Indigenous participation in government procurement, but is having trouble finding solutions in the scholarly literature. However, they find some grey literature – a 2019 study from the Canadian Council for Aboriginal Business, a national Indigenous advocacy organization – which provides current data and analysis on the federal supply chain and corresponding Indigenous industries.
* Grey literature is often more current than literature published in scholarly journals as it can be produced and disseminated much more quickly.
	+ **Example**: It’s December 2020 and a researcher is looking for up-to-date data on COVID-19 transmission rates in Ontario. They can’t find any scholarly publications that address studies that include this data. Instead, they decide to use data released by the Public Health Ontario that is updated and shared daily (grey literature).
* Using grey literature can help you avoid bias and capture valuable materials that might not appear in scholarly books and journals. As the [**Cochrane Collaboration**](http://www.cochrane-net.org/openlearning/html/mod15-2.htm) reports, studies that report statistically significant 'positive' results are:
	+ more likely to be published (publication bias)
	+ more likely to be published rapidly (time lag bias)
	+ more likely to be published in English (language bias)
	+ more likely to be published more than once (multiple publication bias)
	+ more likely to be cited by others (citation bias)
	+ **Example**: A researcher is trying to learn why their method for altering behaviour in a mouse strain used in their study via antipsychotic drugs is not working, despite many previous experiments demonstrating the efficacy of these drugs in different experimental models. The researcher discovers unpublished negative results (grey literature) that demonstrate other researchers had similar problems with these drugs, calling the efficacy of these antipsychotic drugs into question.

(<http://emodules.med.utoronto.ca/HSR/EDGrey/story_html5.html>)(<https://guides.library.stonybrook.edu/c.php?g=226681&p=1502470>) (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3917235/#__sec3title>)  |  |
| 2 Searching for Grey Literature | **Searching grey literature can be time consuming because it is not** always **included** in the Library’s subscription research **databases**. The strategy you'll develop to find grey literature is very question- and objective-dependent, and can require quite a bit of creativity and dogged determination.(<https://guides.library.utoronto.ca/c.php?g=577919&p=4123572#s-lg-box-12806126>)  | Which of these would be considered grey literature? Check all of the options that are considered grey literature sources:* + - Blog posts
		- Systematic review
		- Patent
		- Conference proceedings
		- Government reports
		- Journal articles
		- Clinical trial results

FEEDBACK:This is a tricky question, as “grey literature” for one project might not be considered “grey literature” for another project.For example, census data might be grey literature to a health sciences research but would be primary source data for a policy analyst.Journal articles and systematic reviews are NOT grey literature, but everything else in the list could be considered in this category.(<http://emodules.med.utoronto.ca/HSR/EDGrey/story_html5.html>) |
| 2.1 Questions to Guide Your Search Strategy | There are some general sources of grey literature but, like any research material, the usefulness of grey literature will be connected to your research question. The key to locating grey literature is asking yourself the right questions.**Who creates the information?** * Who cares about this information? (Who would be interested in it other than you?)
* What is the purpose of this information/document?

**Who collects the data/information?*** Who gathers and/or publishes it?

**Who disseminates/shares this information?*** Who is the caretaker of this information locally, provincially, nationally, and internationally?
* Who has access to it?
* Who is the target audience?

**Are you searching locally, regionally, nationally, or internationally?*** Is this content granular or general? For example, is it big-picture statistics (i.e. OECD, WHO), national census information, or statistics from a local organization? These are all varied in terms of scope, ownership, and access.

Your answers to these questions will help you decide the best places to search for grey literature to support your research question. Additionally, experts in the field can be rich sources of information. Talk to an expert in your discipline (including your [subject librarian](https://uwaterloo.ca/library/services/librarians-subject)) to learn about potential sources of grey literature you might not have considered.Once you have an idea of where to find the types of grey literature that will support your research question, there are several search strategies you can try to find useful material.We’ll start by introducing you to some of the databases and lists from which you can find useful sources of grey literature.(<http://emodules.med.utoronto.ca/HSR/EDGrey/story_html5.html>)  |  |
| 2.2 Grey Literature Database Searching | As we’ve mentioned, grey literature can be relevant to many disciplines and can take many forms. While this list is not exhaustive, grey literature can include:* Scholarly sources
* Discipline-specific sources
* Government & industry sources
* Community-based sources
* Data & statistics

**Why not just Google it?**Google can be a great place to start your search, but it’s not always wise to let Google drive your research. There are a few reasons why:* Google’s algorithms can introduce bias into your search based on which search results are displayed first
* Google cannot access the deep web (e.g. PDFs with no metadata) or the deeper web (e.g. information stored on intranets)

We’ll explore some of the ways you can make Google work for you to find grey literature, with filters, site-searching, and adjacency operators, in a subsequent lesson.Note: Although grey literature is not always included in the Library’s research databases, we subscribe to several databases that include some types of grey literature, and some that consist entirely of grey literature. Check each database before searching to see if it includes this material. |  |
| 2.2.1 Scholarly Sources | **Theses & Dissertations**Many institutions have **institutional repositories**,online databases of academic research by their members that may not be published in traditional formats. These can include faculty and student dissertations and theses – documents submitted to fulfill academic or professional degree requirements. The University of Waterloo’s repository is called [UWSpace](https://uwspace.uwaterloo.ca/).There are several online registries that provide links to institutional repositories. These include:* [Canadian Institutional Repositories](http://www.carl-abrc.ca/advancing-research/institutional-repositories/repos-in-canada/): a list maintained by the Canadian Association of Research Libraries
* [OpenDOAR](https://v2.sherpa.ac.uk/opendoar/): a U.K.-based website listing repositories around the world (academic and otherwise) that are open access and freely available
* [Registry of Open Access Repositories](http://roar.eprints.org/): another list similar to OpenDOAR

**Conferences**Academic, scientific, or professional conferences are events for researchers to present and discuss their work, representing important channels of information exchange between researchers. Conferences are particularly important nodes of new research, often featuring studies before they appear in scholarly journals. The Library subscribes to many research databases that include “Conference Paper” or “Conference Proceedings” as a Document Type search option, including:**Reports from Research Institutes & Think Tanks**Research institutes and think tanks are organizations that undertake research and advocacy activity around topics including social policy, political strategy, economics, technology, and cultural issues. These organizations often publish articles and studies, and even draft legislation on topical political or social questions.Most think tanks are non-governmental organizations, but some are affiliated with government or are associated with political parties or businesses. Remember: research from research institutes and think tanks may be designed to support a particular conclusion, so tread carefully with these sources!McGill University provides a [list of Canadian Think Tanks](https://www.mcgill.ca/caps/files/caps/guide_canadianthinktanks.pdf) worth exploring. These include:* The Brookfield Institute
* The C.D. Howe Institute
* Canada 2020
* The Canadian Economic Association
* The Canadian Tax Foundation
* The Centre for International Governance Innovation
* The Conference Board of Canada
* The Fraser Institute
* The Frontier Centre for Public Policy
* The Institute on Governance
* Maytree
* The Mowat Centre

For research from international research institutes and think tanks, you can search the following resources:* [Open Think Tank Directory](https://onthinktanks.org/open-think-tank-directory/)
* [U.S. Think Tank Search](https://guides.library.harvard.edu/hks/think_tank_search/US) (Harvard Kennedy School)
* [Non-U.S. Think Tanks by Region](https://guides.library.harvard.edu/hks/think_tank_search/hks/think_tank_search/non_US) (Harvard Kennedy School)
* [Think Tank Directory](http://www.thinktankinitiative.org/think-tanks/map) (Latin America, Sub-Saharan Africa, and South Asia)
 |  |
| 2.2.2 Discipline-Specific Resources | **Clinical Trials**Clinical trials are experiments or observations performed on people that are aimed at evaluating a medical, surgical, or behavioural intervention. Clinical trial results are often communicated through publication in scholarly reports and articles in biomedical journals. However, the dissemination of information through journals can be delayed or incomplete. Searching grey literature resources can help you find information about newer treatments or older interventions that aren’t available in research databases.Information from clinical trials can be found in the following registries and databases:* [Health Canada’s Clinical Trials Registry](http://hc-sc.gc.ca/dhp-mps/prodpharma/databasdonclin/index-eng.php)
* [ClinicalTrials.gov](http://clinicaltrials.gov/): Produced by the U.S. National Institutes of Health
* [WHO International Clinical Trials Registry Platform](http://www.who.int/ictrp/en/)
* [Current Controlled Trials](http://controlled-trials.com/): A UK organization listing randomized controlled trials
* [CenterWatch](http://www.centerwatch.com/): Trials are searchable by medical condition, therapeutic area, and geographical location
* [Cochrane’s CENTRAL](http://onlinelibrary.wiley.com.myaccess.library.utoronto.ca/cochranelibrary/search?searchRow.searchOptions.searchProducts=clinicalTrialsDoi): A database of controlled trials compiled by Cochrane

**Clinical Practice Guidelines**Clinical practice guidelines are systematically developed statements designed to help medical practitioners make decisions about appropriate health care for specific clinical circumstances. Guidelines are produced by different healthcare organizations and professional bodies at the local, regional, or national level to address a variety of medical issues and conditions.You can find clinical practice guidelines in the following databases:* [CMA Infobase](https://www.cma.ca/En/Pages/clinical-practice-guidelines.aspx): This Canadian Medical Association database provides access to nearly 2000 clinical practice guidelines produced or endorsed in Canada. It offers a number of search and browse capabilities, including a search by MeSH terms under the Basic Search option.
* [National Institute for Health and Care Excellence – Guidance](http://www.nice.org.uk/guidance): This U.K.-based organization provides guidance and advice based on best evidence to support medical decision-making.
* [National Guidelines Clearinghouse](http://www.guideline.gov/): Comprehensive public resource for evidence-based clinical practice guidelines.

**Negative Results**Negative or “null” results are experimental outcomes which do not show the expected effects, or, more simply, a result that does not support the hypothesis. Scientists often choose not to publish their negative findings as they tend to yield less scientific interest and impact. However, many academics have argued that negative results are an important part of the scientific literature because they can push researchers to critically evaluate current thinking and prevent duplication of research impact.Some places to look for negative results include:* The Journal of Negative Results in Biomedicine
* The Missing Pieces: A Collection of Negative, Null and Inconclusive Results (PLoS)
* The All Results Journals
* Journal of Pharmaceutical Negative Results
* International Journal of Negative & Null Results

**Patents**Patents are legal documents giving the patent owner certain exclusive rights to their intervention for a limited time. Patents can be an excellent source of information on new technology, trends in technological development, and specific products or innovations. Patent information is often available before scholarly literature on a specific technology, if it is published in scholarly literature at all. Some corporations don’t publish any research outside of patents, so this can be the best way to find out about a company’s researchers and research activities.Patents are usually filed first in their country of origin, and then filed in other countries as needed. For this reason, you may need to look in several search engines to ensure you've done a thorough search. However, many countries' patents are indexed through the [World Intellectual Property Organization's PatentScope database](https://proxy.lib.uwaterloo.ca/login?url=https://patentscope.wipo.int/search/en/search.jsf), so you should definitely include this tool in your search strategy.Some additional sources to consider include:* The Canadian Intellectual Property Office: This database lets you access 146 years of Canadian patent descriptions and images. You can search, retrieve and study more than 2,220,000 patent documents.
* European Patent Office – Espacenet: Espacenet offers free access to more than 90 million patent documents worldwide, containing information about inventions and technical developments from 1836 to today.
* Fresh Patents: Covers US patent applications. Interesting to monitor for new and emerging technologies.
* Google Patents: Google Patents covers the entire collection of granted patents and published patent applications from the USPTO, European Patent Office, and World Intellectual Property Organization. US patent documents from 1790, EPO and WIPO from 1978.

(<https://ucsd.libguides.com/patents>, <https://libguides.princeton.edu/patents>, <https://subjectguides.uwaterloo.ca/patents/wheretolook>) **Working Papers**Working papers are scholarly articles that have not been published or undergone the peer review process. In economics and social sciences, researchers often post these papers to obtain feedback prior to submitting their research as an article for review and publication. Since working papers are made available earlier than traditional publications, searching working papers is a useful way of identifying current trends and ideas.Some useful sources to locate working papers include:* [IDEAS (Internet Documents in Economics Access Service](https://ideas.repec.org/)): IDEAS is the largest freely available bibliographic database dedicated to Economics. It includes information about working papers and published research to the economics profession.
* [SSRC (Social Science Research Council) Working Papers](https://www.ssrc.org/pages/ssrc-working-papers/): SSRC Working have addressed topics including statistical analyses of national economic growth, considerations of the challenges of building international educational and intellectual capacity, and studies on global security and cooperation.
* [IMF Working Papers](http://www.imf.org/external/pubs/cat/wp1_sp.aspx?s_year=2014&e_year=2014&brtype=default): International Monetary Fund (IMF) Working Papers dating back to 1997.
 |  |
| 2.2.3 Government & Industry Sources | **Government Reports, Policy Briefs, & White Papers**Government bodies frequently publish reports, policy briefs, and white papers on a variety of topics. In Canada, government bodies at the federal, provincial, and municipal/regional levels may produce relevant materials.Visit the [Canadian Government Information Research Guide](https://subjectguides.uwaterloo.ca/c.php?g=695548&p=4931873) to access a list of links to federal, provincial, and municipal government grey literature sources. These include:* House of Commons publications
* Senate publications
* Government of Canada publications
* Library and Archives Canada
* Library of Parliament research publications
* Federal and provincial case law
* Government of Ontario parliamentary publications
* Canadian municipal associations & lists of municipalities

(<https://subjectguides.uwaterloo.ca/c.php?g=695548&p=4931873>) **Business Reports & White Papers**Industry produces a variety of grey literature – including annual reports, market research reports, and white papers – that may provide useful information to help you answer your research question.In addition to the businesses that may report company information and/or publish research on their website, the following databases may be useful for finding grey literature:* [ABI/INFORM](https://uwaterloo.ca/library/find-and-use-resources/research-databases/id/2)
* [Business Source Elite](https://lib.uwaterloo.ca/web/research-databases/id/1565)
* [CBCA (Canadian Business & Current Affairs)](https://uwaterloo.ca/library/find-and-use-resources/research-databases/id/181)
* [Factiva](https://uwaterloo.ca/library/find-and-use-resources/research-databases/id/318)
* [Nexis Uni (formerly LexisNexis Academic)](https://lib.uwaterloo.ca/web/research-databases/id/1576)
 |  |
| 2.2.4 Community-Based Sources | **Press Releases**Press releases are statements prepared for and distributed to members of the news media by an organization to provide information or make an update. They are sometimes reported on in traditional media and shared via social media. Press releases can help you learn more about an organization or issue, whether they are from government departments, intergovernmental organizations, professional associations, non-profit organizations, or higher education institutions.In addition to finding press releases published directly on an organization’s website, the following Library databases can help you locate press releases:* Factiva

**Newsletters & Emails**Many organizations release newsletters and emails that can provide informative background information on a variety of topics. Most of these newsletters require you to provide your email address to join a list of subscribers.**Social Media Posts**Aspects of social media are studied by researchers in different disciplines including political science, communications, information science, and public health. Online services like Facebook, Twitter, Instagram, TikTok, and YouTube provide social networking and media sharing tools, which allow users to broadcast information to their audiences.Some social media platforms provide verification mechanisms (e.g. the blue check on Twitter) to indicate authentic profiles, even featuring some prominent scholars and experts researching a variety of topics. Be careful: social media may help you learn about new trends in your topic, but posts may not be scholarly enough to support academic research.To identify discussion on social media in the aggregate, there are several tools that allow users to search for and “listen” to information shared via social media:* [Google Trends](https://trends.google.com/trends/explore): Compares Google search terms over time
* [SocialMention](http://socialmention.com/): A social media search and analysis platform that aggregates user generated content into a single stream of information. Best suited for tracking brands and simple sentiment analysis.
* [Social Searcher](https://www.social-searcher.com/): Social media search engine including Facebook, Twitter, Instagram and more. Has simple filters and analytics, including sentiment analysis. Free account limit to 100 searches.
* [Voxgov](https://libguides.umn.edu/19657): Search publications, press releases, and social media activity of U.S. government agencies and legislative unites including legislators, department chiefs, and other branches in the federal government. Social media includes Twitter feeds, YouTube videos and other output by government entities. Congressional documents such as hearings are also available.

(<https://libguides.umn.edu/social-media-research>) **Blog Posts**A blog is a type of discussion or information website on the Internet, consisting of individual posts. Blog can be single or multi-author and posts are typically published in reverse-chronological order (most recent first). Many blogs function as online diaries, while others can provide commentary on a particular subject or online brand advertising for a particular individual or company. Scholars can use blogs to give the public a glimpse of ideas as they form, and test things out in an open environment. Blogs also provide scholars with a venue for educating a broader public, especially on topics that are misunderstood or misrepresented in traditional or social media.A good first step in identifying blogs is to check the website of the individual or organization to see if they feature a “blog” section (this may also be called “news” or “updates”). Scholarly blogs can be difficult to locate, but here are some starting points:* [Scienceblogs.com](http://scienceblogs.com/): This blog aggregator has narrowed its service to a few science-only blogs.
* [Researchblogging.org](http://researchblogging.org/): Blog aggregator: recent blog articles in many science, technology & medical fields.
* [Scientopia.org](http://scientopia.org/blogs/): An aggregated blog of a few dozen science bloggers trying to help people understand science.

(<https://libguides.bc.edu/periodicals/blogs>)  |  |
| 2.2.5 Data & Statistics | There are many sources of data available both in and outside of the UWaterloo Library that may be useful to your research. Consider whether you are looking for **data** (the raw material from which information is obtained) or **statistics** (information obtained through mathematical operations on numerical data). Statistics are generally presentation-ready, while data will need to be manipulated in order to be meaningful.Consult the Library’s [Statistics & Data Research Guide](https://subjectguides.uwaterloo.ca/c.php?g=695435&p=4931421) for a list of statistics and data sources for topics including:* Canadian data
* U.S. data
* International data
* Business & market data
* Crime data
* Economic data
* Environment data
* GIS data
* Health data
* Opinion poll data
* Real estate data
* Religious studies data
* Socio-demographic data
* Transportation data
 |  |
| 2.3 Search Tips: Advanced Google and Targeted Website Searching | When you have a good sense of the authorities relevant to your topic, **Advanced Google** and **targeted website browsing** can be good strategies to find grey literature.Start your targeted website search by developing **keywords** from your research question that will help you find the information you’re looking for.**Targeted Website Searching**Then, use the navigation menu to browse or any available search tools to search the websites of organizations that publish documents relevant to your research question. **Advanced Google: Site Search**Did you know that you can use Google to search a website?Try copying and pasting an organization’s URL into into Advanced Google, in the ‘**site or domain**’ field.Try using your **keywords** in different search boxes (e.g. “all these words,” “any of these words”) to retrieve more relevant results. You can also select a particular **file type** (e.g. PDF) for Google to search.For a more systematic search, you can use the following chart to document your searching:A picture containing text  Description automatically generated(<https://guides.library.utoronto.ca/c.php?g=577919&p=4123572>) |  |
| 3 Conclusion | Thank you for completing the Introduction to Grey Literature modules!For more help with grey literature, please contact your subject librarian.  |  |