

3. Internet – Participating in the knowledge society

” “Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family.”

Kofi Annan, former Secretary General of the United Nations, January 1997-December 2006

CHECKLIST FACT SHEET 10 – SEARCHING FOR INFORMATION

Do you read the disclaimer when you are consulting a website?

How can you be sure the information you find is factual and objective?

Do you consult several websites to check your facts?

CHECKLIST FACT SHEET 11 – FINDING QUALITY INFORMATION ON THE WEB

Before downloading files, do you check that your anti-virus software is active?

If you get your news from the Internet, do you seek multiple perspectives on the same story?

Clean out your cookies from time to time to avoid being “profiled” by search engines.

CHECKLIST FACT SHEET 12 – DISTANCE LEARNING AND MOOCs

Choose a method of distance learning that is appropriate for you: determine what type of learning (synchronous, asynchronous, open schedule, hybrid distance learning) will best help you reach your goals.

Before selecting a distance learning course, research the reviews – both from students and teachers.

Take adequate precautions to ensure that your computer equipment and software is secure from hackers, viruses and other threats.

CHECKLIST FACT SHEET 13 – SHOPPING ONLINE

Do not make online purchases on unsecure Internet connections.

Understand and agree to the key information provided about the product or service.

Disable in-app purchases on your smartphone or tablet.

Do not believe all user recommendations you see, creating “user” recommendations can also be a money-making business.

Searching for information



At the very start of the Internet, there were no search engines. Try to imagine a world without search engines. People had to find websites printed on paper, or in magazines and type the address into their browser. Hopefully, that website had links to another website and by clicking from one link to another, they could “explore” the World Wide Web. Progressively, Internet portals or directories¹ were created, which were a bit like a phone book: a vast list of websites sorted into categories. Some of these directories or portals still exist, such as Yahoo! and MSN.

— Other forms of portals include:

- portals with “official” content such as the United Nations website or the Council of Europe website;
- portals specialised in specific content or services such as Booking.com for hotels or Amazon.com for shopping;

1. https://en.wikipedia.org/wiki/Web_portal

- portals that are based on user generated content, which are very diverse – social networks such as Facebook can be considered as a form of portal too.

■ Search engines were then created and they revolutionised the way people searched for content on the Internet. But how do search engines work? Today, search engines rely on web crawlers² and very sophisticated algorithms that analyse content, classify content in indexes³ and decide which websites to pull from those indexes depending on the keywords you use in your search.

■ The way the algorithm is set up is extremely important as most people stop at the first few pages of search results. Google is the most popular search engine today and it made itself popular thanks to its algorithm which used an original method of ranking a website's importance, based on how many backlinks⁴ it has. This basically means how many external websites include links to your website. For instance, if the wikipedia.org website is referenced on a large number of other websites, then it gets ranked higher.

■ But algorithms get tweaked constantly for increased accuracy. For instance, Google plans on adding an element that calculates the "trustworthiness" of websites based on cross-referencing the content with facts stored in Google's Knowledge Vault. Moreover, algorithms can also be tweaked for commercial purposes, as we will see later.

■ Check out Google's animated explanation on how their search engine works: <https://www.google.com/insidesearch/howsearchworks/thestory/>.



EDUCATIONAL VALUE, WHY IS IT RELEVANT, IMPORTANT?

■ Learning how to use a search engine properly is arguably the most important skill one should develop not only to surf the Internet responsibly, but also to acquire transversal skills such as critical thinking (by searching for and comparing divergent sources online). Once you understand how to use a search engine, it can help you find quality information to develop a thousand other skills or gain increased knowledge about an infinite array of topics including – behaving responsibly on the Internet!

■ For instance, you can build up your digital skills by searching for solutions to problems you experience with your devices or simply satisfying your curiosity about how they work. Finding this Internet literacy handbook, the very one you are reading now, can happen thanks to using a search engine.



ETHICAL CONSIDERATIONS AND RISKS

- Some portals may require membership or registration, which may be a paid service. Before you register (even for "free" services) make sure that you understand the terms and conditions of service, and that you have examined and understood the privacy policy of the website (see <http://www.netlingo.com/right.cfm?term=privacy%20policy>).
- Websites use a variety of means, including payment, to improve their ranking in search engine results. Some search engines, such as Google, clearly identify which results are sponsored advertisements. Many others do not make this distinction.
- The algorithms themselves are never neutral and are subject to controversy and criticism⁵. For instance, Google was known to increase the visibility of its own services such as Google Shopping, Google+ or YouTube at the detriment of its competitors (Amazon, Facebook, Dailymotion, etc.). Search engines can also be manipulated for political reasons. As a rule of thumb, never believe that, just because a search result is ranked higher, it is representative of the "truth" or that lower ranked websites are "unimportant" or "irrelevant".

2. https://en.wikipedia.org/wiki/Web_crawler

3. https://en.wikipedia.org/wiki/Web_indexing

4. <https://en.wikipedia.org/wiki/Backlink>

5. https://en.wikipedia.org/wiki/Criticism_of_Google

- This is why it is essential to have several gateways and search engines capable of searching the Web in order to get more diversified results and maintain a healthy competition that can contribute to better search accuracy and neutrality. As a user, you play an important role in shaping the online environment: do not forget to use other search engines such as Yahoo!, Bing, Qwant, IXquick or DuckDuckGo. By using less known search engines, you contribute to their continued existence and thereby secure diversity⁶.
- Be aware that your geo-location⁷ and cookies from your previous searches will influence your search results. Although your geo-location data being picked up by the search engine is unavoidable⁸, periodically deleting your cookies (see Fact sheet 9 about privacy and privacy protection) and – to a lesser degree – your browsing history, will reduce the targeted ads you receive related to your latest searches (e.g. travel destination). It will also help ensure that you are reasonably well informed on important social and political issues by not limiting you to your perceived perspective⁹. You can also disable cookies altogether by looking at your settings inside your Internet browser; however, beware that some websites might not function properly.
- Finally, keep in mind that the results you get to your searches will depend greatly on what you search for. For instance, if you search for very violent content, that is what you are likely to find, but you may get much more than you ever wished for. Developing resilience to shocking or disturbing content is a lifelong process, so do not get ahead of yourself, take it one step at a time.



HOW TO

Because search engines are the most important gateways in accessing information, it is essential to understand how they work in depth. Sticking to the search results of the first page could give you an extremely truncated vision of what is important and what is not. The most important advanced search features to remember are:

- Quotation marks: this is probably one of the most useful and most well-known advanced search features. If you want to make sure that a search engine looks for an exact expression, use quotation marks around it. This may be useful if you want to find an exact phrase or expression.
- Minus sign “-”: this is for when you search for something but exclude a specific term. For instance, if you search for “twilight”, the first results will be all about the movie series. But if you search for “twilight -vampire”, you get the definition of the word “twilight”. The minus sign is therefore very useful when a word is too often associated with something else and you want to make sure that it does not get mixed up in your search.
- Query options: you can add a specific option to your search by using certain key words. For instance, if you type “define: bird”, it will search for the definition of “bird” instead of searching for the word in general. If you type “site: wikipedia.org apple”, Google will only search the “Wikipedia” website. This is very useful when searching through portals as we will see below. There are many more query options, so go check them out in the link provided below.
- Specialised searches: most search engines, including IXquick, Qwant, DuckDuckGo, Google, Yahoo! and Bing, have specialised search options, such as searching for multimedia content (images, videos, etc.), academic papers, books, maps, and so forth. Get familiar with these specialised search possibilities, as they come with their own advanced options. For instance, you can filter images by size, colour, file type and even copyright and licence.
- Search tools: the “search tools” available directly below the search bar once you have made a search, are also extremely useful. You can filter results by country and by time. This is very useful if you search for news for instance, as you can restrict the search to the most recent news or news published exactly one year ago.

6. https://en.wikipedia.org/wiki/Web_search_engine

7. <http://www.advancedwebranking.com/blog/geo-location/>

8. <http://www.allaboutcookies.org/cookies/cookie-profiling.html>

9. <http://www.pcadvisor.co.uk/how-to/internet/how-delete-cookies-web-browsing-history-3218163/>

- Advanced search: the “advanced search” option can be found by clicking on the upper right “options” button. Advanced search provides you with all of the above search features in a user-friendly way so, if you are not comfortable using the operators or specific query option terms, use “advanced search”¹⁰.



IDEAS FOR CLASSROOM WORK

- Set a search target for any topic: create teams that use different portals/search engines, as well as a team that uses some of the search techniques described above for searching for information. Allow the teams to compare results, ease of access and quality of information.
- Create a topic for exploration, for example 18th-century art depicting children, or ecosystem dynamics of a particular species in the ocean. Provide your class with portal URLs¹¹ that will lead to links supporting the lesson plan. As there will probably be too many links for individuals to follow, create teams to divide up the links and cover as many as possible, allowing each team to present their findings. Team results may differ, thus providing a narrower focus for further refinement of the students’ learning.
- Prevention or cure: get students to look up their own name on a search engine and see how much unwanted information they find about themselves. How can they prevent such information being available to all and how can data protection regulations help them have unwanted content deleted?



GOOD PRACTICE

- Maintain a healthy skepticism about material you find. The Internet offers a free space for people to share opinions and put forward ideas. Be sure to evaluate with a critical eye and search for divergent opinions and information in order to avoid propagating myths or falling for false claims.
- Avoid falling into plagiarism by using ready-made essays or work. As far as possible, credit the author and give the source of material you quote or use. This is important because:
 - ▶ it gives the author and source due credit;
 - ▶ it protects you from accusations of plagiarism;
 - ▶ it helps others form their own judgment about the credibility of the material;
 - ▶ be conscious of copyright issues if you use material you find on the Internet (see below the “How to” section and Fact sheet 14 on music and images).
- Take the time to manage/clear your cookies and your browsing history. You can disable cookies altogether for enhanced privacy, but bear in mind that some websites may not function properly without them.
- Always try several search terms, advanced search techniques and various search engines to get the most out of your search and find a diversity of sources for your query.
- Bookmark useful sites or portals so you do not have to search for them again.
- Sometimes, you will be looking for something related to a portal, such as an official document from your public administration, the definition of a word, comparing hotel prices or air fares, or buying a product. For all of these queries, you can use a combination of search engines and well-known portals such as Booking.com, Wikipedia or Amazon. Many portals have their own internal search engines, but you can also use an external search engine and restrict the search to that portal. For instance, search for “Hotel Brussels site: booking.com”. Trying both is good practice to find what you are looking for.

10. https://www.google.com/advanced_search?hl=en; https://en.wikipedia.org/wiki/Google_Search#Search_options

11. <http://en.wikipedia.org/wiki/URL>

- If you find useful material, print, take a screenshot or save it. You may not find it again or it may be taken offline without warning.
- If you cannot find the answers through a search engine, post a query in a relevant message board, discussion forum or social network.
- Do not forget to contribute to content creation online. All the answers that you are looking for when using a search engine have been typed up and created by someone. Sharing your own knowledge and skills might help someone else someday (see Fact sheet 15 on creativity).



FURTHER INFORMATION

- Wikipedia is a free-content encyclopedia, written collaboratively by users from around the world: <http://www.wikipedia.org/>.
- The Europeana portal hosts vast amounts of digitised content representing the cultural heritage of Europe: <http://www.europeana.eu/portal/>.
- These European search engines have high standards for privacy protection: <https://www.qwant.com/> and <https://ixquick.com/>.
- There is also a US search engine with high standards for privacy protection: <https://duckduckgo.com/>.
- The following site tells you how to search on the Google search engine: <https://support.google.com/websearch/answer/134479?hl=en>.
- For tips on using Bing on Microsoft on Windows 8, see: <http://onlinehelp.microsoft.com/en-us/bing/jj684589.aspx>.
- How do search engines work? See: <http://web.archive.org/web/20160509142554/http://www.bbc.co.uk/guides/ztbjq6f>.
- Relevant UN Convention on the Rights of the Child articles:

Article 13 – Children have the right to get and to share information as long as the information is not damaging to them or to others.

Article 16 – Children have a right to privacy. The law should protect them from attacks against their way of life, their good name, their families and their homes.

Article 17 – Children have the right to reliable information from the mass media. Television, radio and newspapers should provide information that children can understand, and should not promote materials that could harm children.
- Relevant Council of Europe documents:
 - ▶ Recommendation CM/Rec(2012)3 of the Committee of Ministers to member States on the protection of human rights with regard to search engines: <https://wcd.coe.int/ViewDoc.jsp?id=1929429&Site=CM&BackColorInternet=C3C3C3&BackColorIntranet=EDB021&BackColorLogged=F5D383>.
 - ▶ Recommendation CM/Rec(2008)6 of the Committee of Ministers to member states on measures to promote the respect for freedom of expression and information with regard to Internet filters: <https://wcd.coe.int/ViewDoc.jsp?Ref=CM/Rec%282008%296&Language=lanEnglish&Ver=original&BackColorInternet=9999CC&BackColorIntranet=FFB-B55&BackColorLogged=FFAC75>.