This is the second in a four-part series of study skills articles that will provide advice on how to write better assignments. The articles covered in this series include deconstructing titles (Saffron Powell, 2008), reading and critical thinking strategies, and how to write academically. This article will help students develop effective research skills that are essential to developing academically sound arguments.

University level essays and assignments require students to not only write in an academic style, but also to think in an academic way - which means thinking critically. Before we work on developing important reading and critical thinking skills, you first need to be able to get hold of relevant material and information. This article will help you develop appropriate research skills; it will help you, step by step, to cultivate a methodological approach to identify the material you need in an organized and time-saving manner. It is essential to allocate a reasonable amount of time to research for an essay and ensure that you do it in good time. Many students leave researching to the last moment only to find that the relevant books are out on loan and that the relevant information is harder to find than they anticipated.

As emphasized in the first article, ‘Writing assessments: how to deconstruct an essay title’ (Saffron Powell, 2008), it is important to approach the assignment in a purposeful and methodical way; this is none more so than when it comes to researching your essay. Many students spend hours searching for material in a disorganized way. The key to effective research is two-fold; firstly, you must know exactly what you’re looking for and, secondly, you need to remain focused and keep on track. The last article helped you establish ‘working definitions’ of the terms in your essay title and you should have formulated a ‘research plan’. Keep these beside you as you begin your research; they are there to guide you and ensure that you keep focused only on the relevant information. Turn to them regularly; assess each piece of research against your research plan to ensure it is relevant. Also try and colour co-ordinate all research, either by working definitions or learning aims so that you can see at a glance how much material you have for each section of your essay. This will also help you to maintain control of your information at a later stage when you are writing it up. Try not to get carried away; there is only so much research you can bring to an undergraduate essay. Remember, you are trying to show that your essay is meeting all the learning aims – not more and not less.

Why do research for assignments?

As with all academic endeavours it is essential to understand the purpose of the activity you are engaged in. For the purposes of writing an undergraduate assignment research has several purposes. Firstly, it provides you with information and material that develops and informs your academic knowledge and thinking on a particular topic; secondly, it demonstrates your ability to identify, source and retrieve appropriate information from a vast range of material; and thirdly, you will use your research to support the claims you make in your essay.

What is appropriate research?

Your research can and should come from a variety of sources such as government policies, laws, health organizations, professional codes of conduct, statistics, as well as existing academic research, journal articles, books and so on. When you submit your finished essay you are usually marked on the breadth of the sources you have used; so you need to demonstrate your ability to obtain information from the internet, texts and journal articles. Many students lose marks in their assignments because they use either predominately books or internet material in their work. Submitting an assignment that has used only library books or all internet sources will lose you marks as you are failing to show that you can successfully retrieve information from various places. It is also worth noting that because of the nature of the profession you are entering, it is essential that you use the most up-to-date information that is available. For this reason using appropriate and recent journal articles tend to improve your marks as they offer cutting edge contemporary insights and information into the topic. Generally speaking, a good guide is to use sources published within the last 5 years, unless the work has long-standing influence.

What’s the difference between primary and secondary sources?

The key difference between primary and secondary sources is that primary sources are direct; for example, say you are looking at a text on Maslow's Hierarchy of Needs – it is a primary source if Maslow himself has written that text. If somebody else is referring to Maslow’s theory or quoting him in their text, then that is a secondary source. Generally, it is better to use the
primary source unless the secondary source makes a significant development from the original. So, if someone is simply quoting Maslow in their work, and not developing his ideas in any significant way, there is no reason for you to use that material and would be better using Maslow’s work directly, as a primary source. However, try to be judicious; if you cannot get hold of the primary source, do not waste your time trying to find it. Good research skills are a fine balance of effort and results. It is probably a safe bet that if a primary source is not readily available, it is out of print, and the tutor that marks your assignment will be aware of that; as much as they will be aware, that if an essay is a tapestry of secondary sources, it is likely that the student simply has not bothered to find the primary texts. Remember: good research, like good essays, always show effort.

Types of research: internet searches

There are three valid points to bear in mind when researching on the internet:
- The volume of information is absolutely huge and it is easy to get overwhelmed
- The vast majority is non-academic and thus unreliable
- It is organized in a particular, very systematic way.

The advice given here should help you keep in control of the information you retrieve from the internet. It is important to understand that while many sites can be accurate and very informative, they simply are not acceptable sources for an academic essay unless they originate from an academic source or an appropriate organization. For example, if I wanted to write about the appropriate professional conduct of a nurse, I probably could find useful information from Wikipedia and put that in my essay – but I would lose marks. However, if I found the same information from an appropriate source, such as The Nursing and Midwifery Council code of conduct then I would gain marks. There are several reasons for this. Sites such as Wikipedia (and many others) lack authorship and professional accountability—in other words they are merely someone’s unsubstantiated opinion (no matter how astute or accurate). Good research is rigorous and the academic sources you should be using will have based their research on academic sources, which in turn is also rigorous. This pertains to both accountability as well as best-practice, which are important values to establish in your work (both written and practical) as a budding health professional.

What is academically valid on the internet?

There are ‘safe areas’ on the internet. Sites that have .ac (which stands for ‘academic’) or .edu (which stands for ‘education’) in the web address are academic institutions and are thus legitimate to use. Government site addresses end with .gov and will yield reliable information. Another good idea is to look at the web addresses for internet sources on your reading lists and see which sites are recommended by your tutors.
Effective internet and database searches

It is worth knowing that the internet functions like a huge database, which means that it can be searched very effectively. Most students use ‘Google’ as a search engine, but it is better to use ‘Google Scholar’ which offers a single repository of academic sources (simply type ‘Google Scholar’ into Google to access it). For all database and internet searching you can use Boolean search terms to make your searches as effective and focused as possible. The Google search page can be accessed by going to www.google.co.uk.

What are Boolean search terms?

Boolean search terms are a list of words that are used like switches to turn various aspects of your search terms on and off. For example (whether looking for a journal on an electronic database or on the internet), you want to find an article about the Glasgow Coma Scale and you type this in to the search engine, every article that has these three words in it will be shown. You can use speech marks to make sure that the engine searches for all three words in that order: “Glasgow Coma Scale”. Other useful Boolean terms are NOT, AND, IF. These have to be typed in capitals. So, if you wanted to find Glasgow coma scales in relation to men only then type: ‘ “Glasgow coma scale” AND men NOT women’. It is a good idea to experiment with searches, ensuring you make a note of what has been effective.

Journal databases also respond to Boolean search terms. The journal databases relevant to your subjects will be available at your university learning resource centre (LRC). It is better to put time aside to search databases at the LRC until you are familiar with them rather than trying to do it remotely from home (it can be quite complicated to access the university servers from home, which you need to do to access the databases).

Remembering the Boolean search terms and that recent articles are (usually) most valid, use your research plan and ‘working definitions’ to help you identify the relevant articles. The article titles will be shown (usually with a brief abstract); when you have decided which are the most relevant, open the article. Most articles open as PDF documents: you will see a series of options buttons at the top of the screen. Click on the binoculars (or press ‘apple’ and ‘f ’ on a Macintosh computer) and a search box will open, type in your search words again and the search engine will scan the document and show each word in context throughout the article. This is a very quick way to scan journal articles to find information that is relevant to your topic. When you have found articles that are relevant, ensure that you print them out.

Book searches

Different LRCs have different filing systems for their books and journal magazines. As part of induction at university, students are shown how to use them. If you have missed the induction or remain unsure of how to retrieve books, then you must visit the LRC and ask the staff to show you. The ability to use your library efficiently is an essential skill that will save you many hours of frustration. As with all searches, the key to success is to remain focused.

Recording important details

No matter what source your research is from, it is critical that you record all bibliographic information as you will need to cite your sources both in the body of your essay and in the reference list or bibliography at the end. It is a good habit to establish early on and I advise students to draw up three sheets of paper with the following boxes to contain important information at the top:

For books:
Author:  
Title:  
Chapter:  
pp:  
Editor:  
Publisher:  
Place:  
Date:  

For internet sources:
Author:  
Title:  
Date:  
www:  
Organization:  
Time accessed:

For journal articles:
Author:  
Article title:  
pp:  
Journal title:  
Vol/no:  
Publisher:  
Place:  
Date:  

Note that ‘pp’ represents pages to and from: so if you have read one chapter in a book you need to show this by putting, for example, pp. 112–145. This allows your tutor to judge how you have handled the material in the chapter rather than the whole text. The abbreviation ‘www’ is for the web address of the article which is essential and you must also put the date and time you accessed the article on the web as well as the date it was written.

The students then photocopy these sheets. If they are note-taking from a journal they fill in the details and then take notes on that sheet. Some students have found it useful to photocopy onto coloured paper and use corresponding colours to the learning aims and working definitions. Each university has slightly different referencing conventions.
so develop these sheets in close consultation with your school’s referencing guide and put the boxes in the order that you should put them in the finished referencing list or bibliography.

**Using research effectively**

As pointed out at the start of this article, it is essential to know the purpose of your research. If you have effectively deconstructed the assignment title and spent time mapping out your learning aims, it should be clear to you exactly what you need to show in your assignment. Research not only develops your knowledge of a subject but also offers you material to support arguments in your essay. ‘Arguments’ when referred to in contexts of essays, means your opinion, but supported by academic references. For example, if you state in an assignment that:

‘the patient would benefit from a multi-disciplinary care-plan and an assessment by a nutritionist’

and leave it at that, the tutor will not be able to award you any marks for what may be a valid observation. However if you state that:

‘the patient would benefit from a multi-disciplinary care-plan particularly regarding nutrition, which, as argued by Biggs (2006), promotes and accelerates patient wellbeing’

you will be awarded marks because it is validated by research. In the next article we will examine further ways in which research can be effectively used in your assignments as well as discussing how to actually read the research and how to think critically about its contents.

**Conclusion**

Research is a vital element of writing assignments and it is important that you have a good understanding of how to use it. It is also important to be able to differentiate between useful and irrelevant research if you are to achieve a good mark.

_Sarra Saffron Powell is available for staff training, embedding Study and Communication Skills in curricula and collaborative projects. She can be contacted at s.s.powell@herts.ac.uk or by calling 0151 707 6181_