

UNIVERSITY OF PLYMOUTH

# **Embedding research skills training into undergraduate mental health programmes**

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## BACKGROUND

1. Current students on the BSc Mental Health (alongside students from several other programmes delivered within FHSW) undertake four research specific modules across the three years of their degree. Whilst these modules are generally evaluated well by students, some limitations in their presentation moderated the impact of these modules on the students' experience of research in the workplace and the development of practical research skills.
2. Currently no placement is offered with the specific aim of developing students' research skills in the workplace. This could be viewed as a limitation given the current emphasis within health teaching and practice upon research, developing evidence based practice, and the development of the role of 'research nurse'.
3. Due to constraints imposed by ethical governance concerning health located research carried out under COREC regulations, students have only limited opportunity to gain practical experience of research design, data collection and analysis, report preparation, and presentation. As a result, students are not exposed to the issues and challenges of conducting and reporting on an extended study relevant to the workplace setting.

## AIMS

This project aimed to strengthen the research skills of students graduating with mental health qualifications from the Faculty of Health & Social Work. The project was divided into two stages and aimed to address potential limitations through the following project goals:

### *Project 1.*

1. By developing and evaluating a web based package to support the research method modules in Year 2 and Year 3, but to also support students to use research methods in connection with other modules throughout their degree. The web based package has relevant topics on collecting, analysing and using data, how to relate this more specifically to collecting and using data from placement, how to analyse and use data, and how to write a research based dissertation.
2. A questionnaire was designed and used to examine student and staff attitudes and perceptions concerning confidence and ability in students research knowledge and the application of their research skills. The

questionnaire also enabled the evaluation of the web-based package in order to inform its content, design, and enhance its development so as to support the learning experience of students on the mental health course.

### *Project 2.*

3. Focus groups and interviews were conducted to examine the feasibility of developing a research based placement with particular emphasis upon practical considerations surrounding academic time and resources to support students, ways to support students, the capacity of placement to use students within a research role and issues surrounding research ethics and governance. By undertaking qualitative developmental work with key stakeholders (students, lecturing staff and representatives from placements) the outcome of this research would suggest the best way to inform the development of such placement opportunities and highlight potential resource demands upon the School and placement location to inform the number of placement opportunities that could be provided.

## **METHODOLOGY**

### *Project 1.*

The initial phase of the project involved the design and creation of a website to support students with research methods; this stage involved a quasi-systematic search of literature and the website to identify sources of information applicable to the project, and in particular in teaching undergraduate students research methods.

It was decided that the website would become an e-library and would cover all information for research methods and related topics across the degree course, therefore enabling students to have continuous access and support for research methods as well as enabling students to progress with their own learning. The main content for the website is listed below:

| <b>Website Content</b> |   |
|------------------------|---|
| Introduction Page      |   |
| Qualitative Research   | This section relates to qualitative research and covers general qualitative research, qualitative methods, and qualitative (content) analysis.  |
| Quantitative Research  | This section relates to quantitative research and covers basic to advanced information about quantitative methods. The links are split into sections covering numeracy skills, basic to advanced information on how to get started with quantitative methods, designing and |

**Evidence Based Practice**

using questionnaires, data analysis and using statistics, and how to produce graphs illustrating statistical information. This section relates to evidence based practice, its aim is to help us make sense of knowledge derived from research and use it as a basis for making health care decisions.

**Writing Skills**

This section relates to writing skills that you will use to write up your final year project or dissertation. It covers general writing skills, searching the literature, how to read analyse papers that you find, how to write a report, and how to reference papers. There is a section at the end of the page which applies to future work; specifically how to write research proposals and how to publish your research.

The current link for the research methods site is available internally to staff and students of the University of Plymouth and placed inside the Tulip system (included in Appendix):

<http://study.plymouth.ac.uk/Module/HEAB394P%20AYSU%2008/Research%20Methods/default.aspx>

In order to evaluate the website, a questionnaire was designed to evaluate the software and was also piloted to ensure that the questions were valid in assessing the software. This questionnaire was used to obtain feedback and comments to inform the continuing development, design, and content of the package; the questionnaire also provided an insight regarding student attitudes and perceptions concerning their confidence and ability with regard to their knowledge and application of research skills.

Both students and staff from the mental health courses at the university, as well as placement supervisors were asked to participate in the evaluation of the website. The questionnaire focused on the design and content of the website, perceptions of use, effectiveness, and supporting students in research methods. For the evaluation, participants (students, lecturers, and placement supervisors) were asked to look at and use the website for a period of time, and then to complete the questionnaire provided. After data collection, the questionnaires were analysed by the project investigators to identify feedback that would inform the development of the website.

*Project 2.*

To investigate the reality of linking student placement in the second and third years to a research based dissertation, focus groups and interviews were conducted to investigate issues concerning doing research in placement, the value of research in placement, and resources to support students doing research in placement. Focus group participants were shown the website and two separate focus groups were conducted; one focus group involved students from the mental health courses, and the other involved staff and from the mental health courses. Four focus groups were conducted in total—each focus group with approximately 6 participants for an hour maximum. Prior to the focus groups, participants were provided with a link to the web-based package, and in order to ensure that all participants had seen the software, the interviewer demonstrated the web-package for around 10 minutes before running each focus group. Participants were asked to read and sign a participation form prior to taking part in the focus group. Questions asked in the focus groups concentrated on the possibility of linking research to placement, and more specifically issues with regards to a research based dissertation for final year students.

The questions for each focus group and interview included: 1. Do you think the website would be a good form of support to students wanting to do research (in placement)?; 2. Would you encourage students to use this website to support them in doing research?; 3. What do you think about linking research to placement?; 4. What do you think is the value of students doing research?; 5. What do you think about students using data collected from placement?; and 6. Could you suggest ways that students could do research?.

All focus groups and interviews were audio-taped to enable the interviewer to pay full attention to participants' accounts. Audio-tapes were transcribed verbatim into a word processing package with subsequent analysis. To ensure rigour, thematic analysis of the text was supported by members of the research groups reading transcripts and developing an initial categorisation based upon these. Members of the group then discussed the categorisations and made amendments to categories or definitions. Further standards included ensuring the coherence of the final analysis, its ability to account for relevant data, and usefulness in identifying implications for educational practice and research.

## RESULTS

*Project 1.*

There were 11 evaluations of the website, with 5 staff and 6 students participating voluntarily.

1. What did you think of the website?

Comments about the website included that it was:

- 'well constructed, clear and user friendly' (18% participants),
- 'very informative and user friendly' (18% participants),
- 'impressive and well organised' (18% participants),
- 'useful' (27% participants),

2. Do you think this website would improve student ability/research methods skills?

- 63% of participants agreed with the statement.

Explanations as to why the website would improve student ability and research skills included:

- the site was 'user friendly so it was easy to find what you were looking for' (18% participants),
- the site was 'useful for clarification of what information to look at' (18% participants),
- a 'good refresher and good to access when needed' (27% participants).

3. How useful do you think the website is in supporting students with their research methods?

- 80% of participants agreed that the website was useful in supporting students with their research methods.

4. Is there existing support for students when learning research methods? Please provide examples.

- 40% of participants stated 'lectures', 'support from personal tutors' and 'the library' as examples of existing support for students when learning research methods.

5. Do you think this website would motivate students to apply the skills they have been taught to their everyday working practices/ practice placement?

- 63% of participants generally disagreed with this statement.

6. How useful do you think the website is in supporting students to write a research based dissertation?

- 70% of participants agreed that that website would be useful in supporting students to write a research based dissertation.

When asked to explain why the website would help students in this way comments included:

- 'it would reduce time to find information' (18% participants),
- 'easy to use and will help improve research skills' (18% participants),
- 'clear guidance (27% participants).

7. Please provide any suggestions to improve the website. Suggestions included:

- 'a menu on the homepage so that it was possible to view all content and go directly to the required website area' (27% participants),
- 'to ensure no dead links on the website' (9% participants),
- 'question and answer section, a forum and hyper links capacity' (9% participants),
- 'information on research ethics and to various internal sites' (9% participants).

### *Project 2.*

Three focus groups and 3 interviews were conducted with staff and students in a teaching room of the University of Plymouth. These focus groups and interviews were transcribed verbatim with subsequent qualitative analysis; to ensure rigour, thematic analysis of the text was supported by project members reading transcripts and developing an initial categorisation based upon these. Seven main themes emerged from the transcripts, which are discussed below; each theme has been divided into staff and student comments.

#### **1. Linking research to placement**

Staff provided several comments related to linking research to placement which are included below:

- It is important for students who will become health professionals to have knowledge of EBP and good knowledge of techniques used in practice

- Postgraduate students often have experience from practice with awareness of what is possible, but undergrads have good knowledge base without the experience in practice.
- It is important to bring EBP and research skills together as they are often taught separately and this is common throughout the degree in respect of modules (in essence stand alone topics). It is important to bring the two together and makes links between them.
- Problem with NHS ethics if doing a research project, however doing an audit gets around this. Possibility for students to be involved with evaluation work or for students to ask something of practice rather than doing something (research) in practice.
- Problems with practicality (400 health professionals in each year) and therefore not practical for each one to do a research project.

Students provided several comments related to linking research to placement which are included below:

- It would be hard because when in placement students work 37.5 hours a week; additional work on top of hours worked and existing assessments set by University would be stressful and tiring. Possible way would be to incorporate the research project into the learning objectives for the placement as this would inform mentors of what needed to be done and would specify in writing that this was a core objective. If not in the learning objectives then it would be hard to enforce because of limited time with mentors and workload of placement.
- It would be useful to learn to do research because the course is 50/50 theory/practical and research would fit in with this model of learning by doing.
- If a research project was part of the third year objectives then the research project would have to fit with the placement and due to the varying nature of each placement this might be difficult to implement. Also, if the project did not fit with or was not acceptable to carry out at the placement this might also pose a problem.
- The last six month placement in the third year is in essence the setting which students will aim to be employed in once qualified. There are separate issues of showing (as a student) that you are hard working and conscientious and making an overall good impression when in that placement and a possible conflict may occur if rather than focusing on this you would have to focus on a research project in your final placement.

## **2. Value of students doing research**

Staff provided several comments related to the value of students doing research, which are included below:

- It is important to discern between students who will complete the degree and those who will continue with education (e.g. MSc) whilst providing all students with level of research knowledge and skills so that continuing students have skills needed for Masters or PhD level.
- It is also important that students who go into practice have a basic knowledge of research so they understand research papers and ideas enough to be able to put something into to practice or evaluate it.
- There are common skills, knowledge and experience across research, EBP and audit so important to provide these to students entering the workplace.
- It is a good learning experience to actually do a research project yourself; you learn and remember a lot more by doing, compared with just learning the theory about it. Undergraduate students don't do a piece of empirical research currently and that's something they miss out on which is a shame. "Research doesn't become real until you do it."

Students provided several comments related to the value of students doing research, which are included below:

- It would be more meaningful to get "hands on" with research and do a small research project in your own time. It would be more meaningful because the alternative seems to be evaluating or analysing papers, which is EBP and we've done quite a lot
- Research is finding the evidence upon which EBP is based and is therefore integral to our learning

## **3. Students using data collected from placement**

Staff provided several comments on students using data collected from placement, which are included below:

- It depends on the type of placement; some placements will be able to facilitate collecting data in placement whereas in other placements it will be very difficult to do that for practical reasons.

- There is a current drive for health care practitioners to understand the health care process so they can be critical about it but unless you have practical experience of the process it can be difficult to understand. A research based dissertation isn't necessarily the answer, but some level of research experience (even basic) would help.
- Collecting data in placement is potentially problematic because of NHS ethics, which is a constant problem for students on the Masters courses. There are real ethical issues for students doing projects with clinical groups, the most obvious one being patient confidentiality. A potential way around this would be to encourage projects that did not require ethical approval by the NHS.

Students provided several comments on students using data collected from placement, which are included below:

- If the placement mentors were supportive then it would be possible, but without their support it would be very difficult to carry out a research project in placement.
- The research project would have to fit well with the placement, and as placements are only allocated a short time before being based there it would be difficult to plan a project that was specific to a placement.
- The short time spent in placement would also be difficult to collect data at the same time as working there full time.
- There would also be issues with motivation because if you're not able to conduct the research into an area you're interested in, then it could be a similar experience to critiquing someone else's research (which is already a component of the course).

#### **4. Ways to do research**

Staff provided several comments on possible ways to do research, which are included below:

- Health promotion work is a potential area in which students could do a research project or research based dissertation. For example, you could have students do a project based on safe alcohol use, and you remove possible ethical issues by basing it within the University, whilst still providing students with an practical awareness of research methods.

- Research and research projects could be linked to the skills sessions that students do throughout their course; for example, linking a research project blood pressure and heart rate, recording these and maybe relating the practical elements of research to this topic.
- Students in years 2 and 3 could be encouraged to run and participate in focus groups at the University; a possible topic could be exploring how their skills have developed throughout the course, and it could link to their third year portfolio.
- If you are inventive, there are many possible ways to encourage research so that it becomes part of the learning process rather than being a stand-alone module.

Students provided several comments on possible ways to do research, which are included below:

- There are a number of possible options for the third year dissertation—you could choose to do a literature review, a research based dissertation involving a piece of primary research (for example, a patient survey).
- If you were doing a research project within placement, the project would have to be flexible enough to overcome any potential snags such as time constraints, difficulties in accessing a population, etc. However, this could mean that there would be pressure to complete the project and this would be affected by each individual placement.
- A research project would have to be relevant to many different areas as there is a vast difference between primary care to mental health care, and the difference is also mirrored in each care setting. This would mean a research project would have to fit a placement, or a research type theme could be applied to give you an idea of what type of research would be possible in each placement or setting.
- A research project or a research based dissertation would have to be formalised into a module so that there was a clear level of university input as well as in the learning objectives that are taken to placement. This would mean that there was a clear description of what was needed, and what was to be achieved during the placement, and it would be formalised that way.

### **5. Areas to cover in teaching research**

Staff provided several comments on areas to cover in teaching research, which are included below:

- Basic statistics (e.g. significance levels, standard deviations) should be taught to students. They don't need to know the maths behind it, but more importantly what it means and how to relate that to practice.
- For students on Masters courses who need to refresh their knowledge having a more structured approach using the website that has been developed to clarify what they need to look at and learn.
- It is important to bring the practice and theory and research together so that they aren't seen as separate and stand-alone and therefore encouraging students to make links between the three.

Students provided several comments on areas to cover in teaching research, which are included below:

- It would be useful to have seminars to learn more about the research process because knowing about the research process enables you to effectively analyse and critique existing research as well as conducting your own research.
- Discussion groups or seminars would be useful to discuss and create a project, or hypothetical project, and it would improve our knowledge base with regard to research.

### **6. Existing support for students**

Staff provided several comments related to existing support for students doing research, which are included below:

- There is existing support from personal tutors or supervisors at the University, many of which are capable of supervising research projects.
- An excellent form of support was provided by one of the research methods lecturers who would inform students via e-mail of useful resources and information.
- The website that was developed in the first phase of this project will be a good form of support to students and staff involved with research methods.
- Modules and research teaching at the University are good forms of support for students.

Students provided several comments related to existing support for students doing research, which are included below:

- Extra support from the research methods lecturers is needed, and if linking research to placement then good links between the University and placement mentors is essential.

### **7. Students research skills**

Staff provided several comments related to students research skills, which are included below:

- It is important to realise that some degrees prepare students to be research assistants when they graduate, however the mental health courses at the University prepare students to be good health practitioners. If they are interested in continuing with research or learning more research skills they can continue onto Masters and PhD level.

Staff provided several comments related to students research skills, which are included below:

- Research skills will be useful in our careers; we might not be in a position to use them in our first post but definitely further up the career ladder.
- We are prepared to use our skills for EBP because we have done critical appraisals of research articles, but in doing our own research project we aren't prepared.
- More continuity between time in University involving lectures and tutorials and time spent within placement would help with confidence in relation to completing assignments and developing skills.

## **CONCLUSIONS**

### *Project 1*

This project involved the development and evaluation of an e-library (web based package) to support students on health profession courses with research methods, research method modules, and developing their skills with regards to research. This first stage involved a quasi-systematic search of literature to identify sources of information applicable to teaching undergraduate students research methods. The main content for the website included Qualitative and Quantitative Research, Evidence Based Practice, and Writing skills. The current link for the research

methods site is available internally to staff and students of the University of Plymouth and placed inside the Tulip system (included in Appendix):

<http://study.plymouth.ac.uk/Module/HEAB394P%20AYSU%2008/Research%20Methods/default.aspx>

Feedback regarding the e-library was generally positive with comments about the structure and content including that it was well constructed, user friendly, clear and informative. The majority of participants also agreed that the website would improve student research ability as well as supporting students with research methods. However, participants generally disagreed that the website would motivate students to apply their research skills knowledge to their everyday practices.

During this project feedback was also received regarding ways to improve the website, with some suggestions having been implemented. For example, an early suggestion was to include a separate section on Evidence Based Practice which has been included in the final version of the e-library. The e-library has been positively received by staff and students alike.

### *Project 2*

To investigate the reality of linking student placement in the second and third years to a research based dissertation, focus groups and interviews were conducted to investigate issues concerning doing research in placement, the value of research in placement, and resources to support students doing research in placement.

Seven main themes emerged from the transcripts: 1. Linking research to placement; 2. Value of students doing research; 3. Students using data collected from placement; 4. Ways to do research; 5. Areas to cover in teaching research; 6. Existing support for students; and 7. Students research skills.

In general it was agreed that it would be difficult to link student placement during the second and third years to a research based dissertation because of issues around practicality, ethics, and time. These potential issues also applied to students using data collected from student placements during their course. Both staff and students generally agreed that a research based dissertation was not essential for learning research or for the completion of a Health degree as students have the option of further study (e.g. MSc or PhD) where this would be part of the degree and appropriate for that level of study. Staff and students provided possible ways to do research, with health promotion work, hypothetical research projects, and literature reviews being a few of the suggestions put forward as possible ways to integrate research into the degree. It was generally agreed that research and EBP plays an important part within the degree course and should be encouraged and linked into the modules that are currently taught because of common skills, knowledge and experience across research, EBP and audit.

Overall, the focus groups and interviews with both staff and students indicated that research is viewed as an important part of the learning process and is useful as a skill for understanding and doing Evidence Based Practice. The practicalities involved with incorporating a research based dissertation into the third year, or collecting and using data from placement centre around time, ethics and practicality of the number of students and placements. Despite this, a number of suggestions were made as alternative ways to encourage and conduct research within the degree course.

### **ETHICAL CLEARANCE**

This work has received full ethical approval by Faculty of Health and Social Work Research Ethical Committee on 5<sup>th</sup> December 2008.

## APPENDIX

# Research Methods

This website aims to provide you with information relating to research methods, and covers general research methods, how to collect, analyse, and interpret data, evidence based practice, and how to write up your project.

This website provides links to information which can be used to support both the teaching of research methods and the individual modules that you will take. You can access this website when you need to for the modules you need to.

Each section provides links to both internal and external sources of information. Please refer to the individual sections below.

- [Quantitative and Qualitative Research](#)
- [Evidence Based Practice](#)
- [Writing Skills](#)

At the end of each section is a discussion board option, which you can click to start a discussion related to each particular topic, this can be used to ask questions, provide information to other students, and make suggestions for information to be included with this website.

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This website has been created by [Halina Kalaga](#) and [Allegra Cattani](#) and developed by [Stephen Hodge](#). For information regarding this website, please contact Allegra Cattani. We are grateful to the TQEF Research-Informed Teaching Initiative for funding Allegra Cattani and Fraser Reid to develop this project. January 2009.

# Qualitative Research

This section relates to qualitative research and covers general qualitative research, qualitative methods, and qualitative (content) analysis. There is a statement after each link on what it relates to.

- **Action Research:**

This page provides an general overview of action research and provides an introduction to action research, how to write an action research thesis, case study examples, communication skills, data-driven research, interviews and focus group techniques, grounded theory, reflective mechanisms and questions, and improving rigour and validity of studies.

- **Qualitative Research Methods:**

This page is described as an 'e-text' to teach qualitative research methods. It provides information on phenomenology, structural analysis, observation, interviewing and other techniques.

- **Social Research:**

This page provides links to information covering what you need to know about social research; for example, analysing qualitative data by computer, using diaries in social research, telephone interviewing, open and closed questions, focus groups, importance of pilot studies, and safety in social research. You can use this page to answer most individual questions you'll think of when approaching qualitative research, both theoretically and practically.

- **Content Analysis:**

The following links provide information on content analysis.

- **Usability Net**

Content analysis is a method of summarising a large body of fairly short statements into a small statistical table in a report. This link provides information about this technique as well as possible alternative methods to consider, case study examples, and background reading references.

- **Content Analysis**

This page provides an introduction to content analysis, a research methodology that examines words or phrases within a wide range of texts. The site also mentions conceptual and relational analysis (both similar to content analysis), issues of reliability and validity as well as advantages and disadvantages of the technique.

# Quantitative Research

This section relates to quantitative research and covers basic to advanced information about quantitative methods. The links are split into sections covering numeracy skills, basic to advanced information on how to get started with quantitative methods, designing and using questionnaires, data analysis and using statistics, and how to produce graphs illustrating statistical information. There is a statement after each link on what it relates to.

## Numeracy Skills

- **Numeracy Skills**

All healthcare professionals require a reasonable level of numeracy for the safe administration of medicines and fluids, budgeting and the interpretation of statistics. This course is designed for you to work through on your own. The Course Material includes technique and application topics and forms the main part of the numeracy skills course. The sections can be worked through independently.

## Getting started with Quantitative Methods

- **Research methods knowledge base**

This page provides information that covers the foundations of research, sampling, measurement, design and analysis of this type of research, and how to write up your results. It's a good overview of what you need to know for quantitative methods.

- **Sampling**

This page provides an overview of sampling, with links to definitions, probability and non-probability sampling, non-response, and sample size. The pages also include activities for you to complete.

- **The normal distribution**

This page focuses on the normal distribution, providing text as well as working examples of graphs that can be used to understand the normal distribution.

- **Application of a case study methodology**

This is an article that covers background information about case study research. It describes the methodology in detail, as well as how to analyse evidence and how to develop conclusions and recommendations of the research.

# Data analysis and Using Statistics

- **Web Interface for Statistics Education**

This is a sequence of interactive tutorials on key statistical concepts (sampling distributions, the central limit theorem, hypothesis testing, and statistical power). It covers basic statistics such as distribution of the mean, to more advanced statistics such as correlation and regression. Each tutorial includes information (text) about the test/theory as well as the tutorial which you can work through.

- **Data Analysis**

This on-line programme covers both qualitative and quantitative approaches to data analysis; it includes a summary of each process and explores specific areas of data analysis that might be applicable to learners studying at undergraduate and post graduate levels. It's a nice site because it starts at the beginning with information on the research process and then goes on to explain qualitative analysis (and what is involved with that methodology) and the same for quantitative analysis. It also includes an introduction to critical appraisal and how to develop your skills in that.

- **Seven common errors:**

This page covers some common errors that can arise in statistics, so if you're doing a quantitative project have a look. It's user friendly and won't overload you with information.

- **Getting Started with SPSS for Windows, John Samuel (Spring 2003)**

This page is an manual on how to get started with SPSS and how to analyse your data within the package. It's good because it includes actual examples of how your SPSS should look when doing particular tests as well as how your output viewer and results should look. Good if you want to get your teeth into SPSS and run a particular test.

## Questionnaires

- **Constructing a questionnaire**

This page provides information on how to design a questionnaire and includes steps involved in a questionnaire based project: how to select the sample; questionnaire design; and additional tips.

- **Designing surveys and questionnaires**

This is a well set out page providing information on how to design surveys and questionnaires. It is broken down into different topics that you need to think about if conducting this type of research.

# Graphs

- **Graphical Data Presentation**

This page covers graphical data and the reasons why graphical presentation is such an effective way of displaying data. You will also learn about major forms of non-quantitative charts. When this page first opens, there is a disclaimer but if you click on proceed it will take you through to the next page.

- **Creating Charts with Microsoft Word and Excel**

This page provides 4 links relating to charts and graphs and covers how to create bar charts, line charts, pie charts as well as guidelines for using these charts.

Discuss - **Quantitative and Qualitative Research**

# Evidence Based Practice

This section relates to evidence based practice, its aim is to help us make sense of knowledge derived from research and use it as a basis for making health care decisions. After each link is a statement on what it relates to.

- **Evidence Based Practice**

This page covers what evidence based practice is and works through the pros and cons, stages and steps of evidence based practice, resources to use, how to review the evidence, and what evidence-based guidelines are.

- **Information resources for evidence based practice**

This page covers the steps involved with evidence based practice, and answers questions such as what is evidence, how to ask the right question, evidence based practice resources, critical appraisal and further reading.

- **Teaching and learning resources for evidence based practice**

This page contains material to support the teaching and learning of evidence based practice. The information covers asking evidence based practice questions, critical appraisal for EBP, useful links, finding evidence and implementing and evaluating change.

- **Database for Evidence Based Practice**

You can use this database to search for example of evidence based practice. On the results page you can filter your results based on an evidence based medicine hierarchy.

- **Evidence based health care journal**

This site is a link to Bandolier, which is an independent journal about evidence-based healthcare.

- **Systematic appraisal of papers**

This website provides information about the systematic appraisal of papers using the CASP (Critical Appraisal Skills Programme) guidelines used by the Public Health Resource Unit (PHRU) within the NHS.

- **Evidence based medicine**

This site provides information about Evidence Based Medicine and provides downloadable Powerpoint teaching resources that can be used (and can be modified) for teaching purpose.

For support and access to helpful organisations and useful **learning resources**.

Discuss - **Evidence Based Practice**

# Writing Skills

This section relates to writing skills that you will use to write up your final year project or dissertation. It covers general writing skills, searching the literature, how to read and analyse papers that you find, how to write a report, and how to reference papers. There is a section at the end of the page which applies to future work; specifically how to write research proposals and how to publish your research. After each link is a statement on what it relates to.

## General Writing Skills

- **Writing Tutorial Services**  
This page provides links covering general writing skills. The information provided ranges from how to use evidence when writing, paragraphs and topic sentences, to proofreading your work.
- **The University of New South Wales - The Writing Workshop**  
A writing workshop which has been designed to assist students to develop effective writing skills.
- **JCU Study Skills Online - Essay Writing**  
Information for the whole writing process—from analysing the question to the final draft and edit.
- **Punctuation**  
This link provides information on punctuation and how to use it.

## Searching

- **Internet Search Tools and Tutorials**  
This link provides information about web searching and covers how to form a search strategy, search tools, and evaluating resources.
- **Language, reading and writing**  
This page provides links on language and grammar, reading and research and writing. Additional links include speaking and presenting.
- **The Literature Review: A few Tips on Conducting IT**  
This page provides information on how to conduct a literature review.

## Scientific Papers (Reading)

- **How to Read a Scientific Paper (John W. Little, Roy Parker)**  
This page provides information on how to read a scientific paper and how papers are organised, how to read them and how to evaluate the information that you find.

- **Critically Analyzing Information Sources**  
This link provides information on how to critically analyse information sources that you find. It splits the information up into the initial appraisal of the papers and a more in depth content analysis of the paper.

## Reports (Writing)

- **The Research Report**  
This page provides information on research writing skills and specifically on how to write a research report. It covers information on the introduction, research report contents, the entire process, and choosing your research topic.
- **Report Writing**  
This link provides information on report writing and the difference between report writing in higher education and report writing at work.

## Referencing

- **Citation Styles Handbook - Harvard**  
This link provides information on the Harvard referencing system, with individual sections listed as an index.
- **The Footnote/Bibliography or 'Oxford' Referencing System**  
This link provides information on how to include footnotes and cite these when writing an essay or your thesis.

## For The Future

This section covers information that you might need for the future such as how to write research proposals and how to publish your research.

## Writing Research Proposals

- **Guide to Writing a Research Proposal**  
This page provides information in a guide to writing a research proposal.
- **Thesis Proposals, A Brief Guide**  
This page provides a guide for students who are enrolled in a postgraduate research degree and who have been asked to submit a thesis proposal.
- **The Proposal in Qualitative Research (The Qualitative Report, Volume 3, Number 1, March 1997)**  
This page provides information on how to write a proposal for qualitative research.

# Publishing Your Research

- **Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication**  
This page provides information on how to write and edit for biomedical publication and the requirements for manuscript submission.

Discuss - **Writing Skills**