Planning and writing your dissertation literature review: a guide for final year degree veterinary nursing students (part one)

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ABSTRACT: This paper aims to provide veterinary nursing students with guidance on how to plan and research the literature review component of their dissertation. Students should take detailed measures to understand the marking process prior to starting to plan their literature review. A mechanistic approach to provisional structure development is beneficial, as is meeting the six aims of a veterinary nursing dissertation. An ever-increasing circles approach combined with an initial structured literature search can identify the appropriate broadness of subject field coverage, and sub-themes, and shape the aim and direction. This can ensure a high-quality focused review as a relevant precursor to the student's original study.

Keywords: literature review; dissertation; student veterinary nurse

Introduction

Veterinary nursing students studying for their initial qualification via the honour's degree route are required to complete a dissertation project as part of their final year studies. This project is normally worth 30 – 40 credits, with a word limit of around 10,000 words, and so can have a significant influence of the student's final degree classification. For most students this project will split into two components – the literature review and the original research study. Both parts of the dissertation represent a substantial practical and intellectual effort as all the academic skills taught over the course of the degree are drawn together to allow the student to synthesise new knowledge and undertake a novel enquiry that contributes to the discipline's evidence base. The role of the literature review is to provide an evidence-based overview of the broad context within which the student's original study will sit and that summarises critically the current situation in the given subject field (Rowley & Slack, 2004). In my experience, writing the literature review can cause students some angst. However, the problems that students encounter are normally common issues shared by many of their peers. Therefore, demystifying the process and understanding how to structure the thesis to avoid common pitfalls has the potential to help generations of veterinary nursing students studying via the honour's degree route.

This paper will focus only on the literature review component of the "two-part" thesis and its aim is to provide final year degree veterinary nursing students with a framework to successfully plan and write their literature review. It is based upon my experiences supervising undergraduate and postgraduate students from both veterinary nursing, veterinary and other related disciplines and is my formula for supporting students to produce a high-quality literature review that obtains a high mark. It is not necessarily the only way and the paper should be read in conjunction with your own university's guidance, as it is possible

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that there will be areas where your university's guidance differs. This is part one of a two-part series that covers planning and writing your literature review. This part focuses on the planning of the literature review. Part two focuses on writing the literature review.

Playing the academic game – you want to achieve the best mark that you can!

Before going any further, it is worth touching on the mechanics of how to get a high mark in literature review (or indeed in many university assignments). What makes an excellent/very good/good/acceptable/unacceptable assignment can sometimes seem to be something of a mystery to students. However, students achieve better grades if they have a good idea of what they are aiming for when writing their assignment, with exemplars and/or signposting to help them appreciate what the markers are looking for (Nicol & Macfarlane-Dick, 2006). Therefore, before launching into tackling the dissertation (including the literature review) a little bit of study to ensure that you know what the academic requirements are for a top mark will pay dividends. To do this:

1. *Study the marking rubric that will be used to mark your assignment.* Rubrics vary in quality, but a good rubric will make very clear what needs to be achieved in order to get a mark, for example in the 70s. If you are not sure where to find this try looking at the dissertation handbook guidance or other information provided by tutors or ask your dissertation supervisor. They want you do to the best you can and so will help you.
2. *Be familiar with the nationwide benchmarking for what academic skills a person graduating with an honour's degree is expected to have demonstrated.* The Quality Assurance Agency (QAA) sets and monitors the standards in Higher Education establishments in the UK. As part of this they publish a document (it is a long one) called the UK Quality Code for Higher Education: Part A: Setting and Maintaining Academic Standards (QAA, 2014). On page 26–27, the requirements for a final year undergraduate in England, Wales and Northern Ireland (FHEQ, p. 26) and Scotland (SQCF, p. 27) are set out. See Figure 1 for an excerpt from FHEQ Descriptor for a higher education qualification at level 6. The Scottish requirements are very similar, but with different wording.
3. *If you are unsure what any of the phrases mean in either the rubric or the QAA descriptor, ask your supervisor for advice here and examples of these phrases in practice.* In part two of this guide, we will start to think about how we can address some of these when writing the literature review.
4. *Ask the lecturer who oversees the dissertation course/module for exemplars of dissertations that achieved a first-class honours mark.* Try asking the lecturer whether they would be willing to run a workshop that demystifies the marking process by getting students to mark a range of dissertations using the same marking criteria and rubric that the lecturers use. Do you all agree on the marks?

Now when you prepare (and write) your literature review (and any other assignment) always plan your work with one eye firmly on the requirements outlined above in (1) and (2).

Reviewing the literature versus writing the literature review

Before planning and carrying out your original research project you should *always* carry out a detailed review of the literature. This is because you should be trying to find out:

- What research has already been carried out in the broad area in which you wish to investigate
- Where the research gaps are (either because of a lack of research *per se* or because of a lack of good quality research) and where you can build on existing research to provide your unique contribution.

And, I would argue, a third reason:

- Exposure to methodologies and approaches that might be appropriate to adapt to address the research questions that you will to focus on (this can give the researcher inspiration for methods that might be appropriate to use to investigate their research topic and is an under-rated part of the process).

These are all very good reasons to consult the literature extensively before, and during, the design of your original research study. However, reviewing the literature is not often synonymous with *writing* the literature review. The reality is (and every university tutor knows this – as does every graduate who has gone through the dissertation process), most (all?) literature reviews usually end up being written after

Bachelor's degrees with honours are awarded to students who have demonstrated:	A systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline
	An ability to deploy accurately established techniques of analysis and enquiry within a discipline
	Conceptual understanding that enables the student: - to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline - to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline
	An appreciation of the uncertainty, ambiguity and limits of knowledge
	The ability to manage their own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline).

Figure 1. Descriptor for a higher education qualification at level 6 on the FHEQ: bachelor's degree with honours rubic. This is what a final year (level 6) honours degree student veterinary nurse needs to demonstrate in order to achieve (on top of course specific content requirements) their degree. Obviously the better you are at demonstrating this, the higher the grade you will attain. Author's own colouring in blue and red to emphasise some key phrasing. Reproduced with permission from the QAA.

the research project has been designed (and often the data collected and analysed). Despite this, you *must* play the academic game and pretend that you have written the literature review before designing your study. By this, I mean that you should make sure that you do not refer to your research study or explicitly your research study plans in any way throughout the literature review. It as though your research study never happened. Underline and remember this!

So…. I am ready to start writing… what does my literature review need to achieve?

There are five things that an undergraduate literature review needs to achieve:

1. It needs to have clear and achievable aims
2. It needs to clearly pave the way for the original research study that follows
3. It needs to demonstrate depth and breadth of knowledge and understanding
4. It needs to demonstrate critical evaluation skills
5. It needs to take the reader (think marker here!) on an important emotional and intellectual journey that ends up with your study

I would add that there is an important sixth one for veterinary nursing undergraduate dissertations….

6. The relevance of the topic to veterinary nursing should shine through. You are a student veterinary nurse undertaking an original research project in an area relevant to veterinary nursing and the degree that will be awarded is in veterinary nursing. Therefore, the literature review (and original research study) should normally reflect this. This requirement may differ slightly for students undertaking a veterinary nursing degree that is combined with another discipline (e.g. bioveterinary science, physiotherapy or behaviour), but the same underlying principle remains the same.

Planning the structure

Dead academics that believed that writing a literature review is an art will be turning in their graves right now, but there is something to be said for taking a mechanistic approach to developing the structure of the literature review. This can be done *before* you have even thought about what your literature review will cover. However, remember that this is a *starting-point* and not something to be followed slavishly. So where to start?

1. Identify the word limit that your university's handbook states. We will work with the example of 3000 words, which is currently the requirement at both the Universities of Bristol and Edinburgh for the programmes that I am or have recently been involved with. However, this limit does vary. It was around 5000 words at Harper Adams University (when I worked there), and it is likely that your university or college's requirement will sit somewhere between these word limits.
2. Identify what needs to be included in this word limit. This will probably be an introduction, "main body" (don't ever call it this in your literature review!) and a conclusion. Some universities require an abstract to be included in this word limit, but some do not. Ensure you are clear what your own university requires. The worked example in this paper does not include an abstract. If yours does, follow the university guide for the word limit for the literature review specific abstract if they provide one. If they require one but do not provide guidance, as a rough rule of thumb your abstract should be about 5% of the word limit for the literature (i.e. around 150 words for a 3000-word literature review).
3. Plan how you will allocate the words across the sections that need to be included. Again, as a rule of thumb, the introduction will take 300–500 words, and the conclusion around 150–250 words. Keep the introduction and conclusion word allowance in balance with the overall word limit of the literature review (i.e. longer literature reviews can have longer introductions and conclusions).
4. Subtract the words allocated to the introduction and conclusion from the total word limit. What is left is what you have left to use for the main body of the literature review. In this example, we will plan for the introduction and the conclusion to use 450 words, leaving 2550 words to be "spent" on the main body of the literature review.
5. Plan how you will allocate words within the main body of the literature review. All final year student researchers need to walk a fine line between such long sections of text that it becomes hard for the reader to follow the thread of argument(s), and text broken up by so many sub-headings that it becomes impossible to meet the marking criteria for a level 6 (level 10 in Scotland) undergraduate assignment. A useful rule of thumb is to identify how many words are available for the main body. If it is around 2550 words, split into 2–3 sub-sections. If it is between 4000 and 4500, split into 3–5 sub-sections. You should aim for these sub-sections to be roughly equal sized. This will help your dissertation to feel balanced, but this is only a guide and should be adapted as required to reflect the subject material you are working with for your dissertation.

You now have your draft literature review framework. Set this out using headings on a word document and provide word limit prompts for each section to remind yourself of the approximate target. You now need to think about what you will include in the content of the literature review, and how you will use this material.

The goal: paving the way for your original research study

So what should the literature review cover? Well, it should come as no surprise to be told that the literature review must pave the way for your original research study. So, if your original research project seeks to address the answer to "Does the use of food during puppy vaccination clinics result in dogs that are less stressed during subsequent vet clinic visits?" then a literature review that explores the evidence for various infection control measures in veterinary practices would clearly not be appropriate. However, perhaps one of the biggest problems that I see with student literature reviews is that the student tries to make the literature review focus exclusively on trying to answer the question that they wish to investigate. In this case, the veterinary nurse student might try to confine their literature review only to looking at the use of food to prevent dogs becoming stressed during vaccinations, or possibly, the welfare of dogs during vaccination consultations. This is a common and understandable error but the focus is now too narrow. Some of the problems that the student will inevitably encounter include:

- There will not be enough scientific literature available so the literature review will be less of a review of the literature, and more the repeated citing of one or two scientific references, and possibly some popular press articles – if you are lucky!
- Your literature review will end up very similar to the introduction and discussion of your original research study

and you will struggle to prevent yourself from saying the same things using the same references.
- You will reduce the overall number of sources that are cited and referenced in your thesis and that will make your work look "less well researched".

Therefore, it is necessary to broaden the remit and focus of your literature review to allow you to embrace a wider range of scientific research papers. Only this can allow you to demonstrate to your marker that you have scientific mastery of the breadth and depth of the scientific literature that forms the wider background and context to the study you wish to carry out. How broad is a matter of judgement and will differ according to the research study you plan to carry out. You may need to think about this as ever increasing circles in which you widen the remit until the focus in broad enough (but still relevant) to allow you to draw in lots of scientific research as part of your literature review, but not so broad that you cannot possibly undertake a comprehensive review of the available evidence. See Figure 2 for an example of how the remit can be increasingly widened and Figure 3 for the impact of this on the number of "hits" that a systematic search of the CAB Abstracts database yields. However, at the same time, you also need to ensure that the literature review is structured, purposeful and is not a brain-dump of everything that you know on a particular topic.

Avoiding the unstructured brain-dump literature review

Perhaps the best way to avoid what I have often called the "vomit on a plate" literature review in which the student just aims to put everything they know about a topic on paper, is to have clear aims for what you want this review to achieve. However, until you explore the literature you might not be able to decide fully the aims in detail. For example, at this point you might be thinking that:

"*The aim of this literature review is to critically evaluate the welfare of dogs while at the veterinary clinic*".

And that is a good starting point when initially looking at the evidence base to get a feel for what literature is out there, but you will need to start thinking about why? What will be your angle? Is it to understand areas needing improvement? To understand methods and approaches already being undertaken? And crucially "so what?" How will that lead you (and the reader of your dissertation) clearly from the start of the literature review neatly and powerfully to your original study? When you have done this you will inevitably need to refine your aims to better reflect the "so what" and the angles covered. This will be touched on in more detail in part two.

One exercise that that can really help here is to think about the underlying themes that are relevant to the study that you plan to carry out. I find it very useful to use a spider diagram to brainstorm themes that I might want to cover in the literature review, and to create this in conjunction with looking at the clinical abstracts identified through a search such as the one shown in Figure 3. Skimming the research paper abstracts can help you pick out themes in the literature. For example, if looking at stress reduction in dogs, one paper might have investigated dog-appeasing pheromone, another high-value food, another the owner being present during consultations, another the use of pharmaceuticals, but the underlying theme that starts to emerge is one of *methods and approaches* used to minimise stress in dogs at the veterinary clinic). Similarly, you might find papers that report on stress behaviours shown in dogs in the UK, puppies during microchipping consultations, mixed breeds in the waiting area of a vet clinic in America, etc and the underlying themes might be the *prevalence, incidence and severity* of stressed dogs and/or *approaches to measuring stress in dogs at the veterinary clinic.* Often lots of themes will emerge and that is fine. Jot them all down and make a note of which (and crucially, how many) cover this theme. Once you have identified the themes that you might cover in your literature review, the following can help.

1. Identify the number of sub-themes that you can meaningfully cover in your literature review. I think of themes as "subsections", so if you have enough words to have 2–3 subsections, then you want to select 2–3 sub-themes.
2. Identify which themes you think:
    a. *Are most important to cover* (which ones do you think are most clearly linked to your topic that it would "feel wrong" not to cover them?). Chatting to friends about which areas would be most of interest to fellow veterinary professionals can be very useful here. This is part of the emotional journey – you want the reader to see the relevance of what you are writing about and "feel the usefulness of this to them as a veterinary professional".
    b. *Have many published peer reviewed research papers that allow you to demonstrate your depth/breadth of the scientific knowledge.* Make life easier for yourself by picking themes that have plenty of primary source scientific literature to engage with. You have already reduced your chances of a good mark if you don't because you

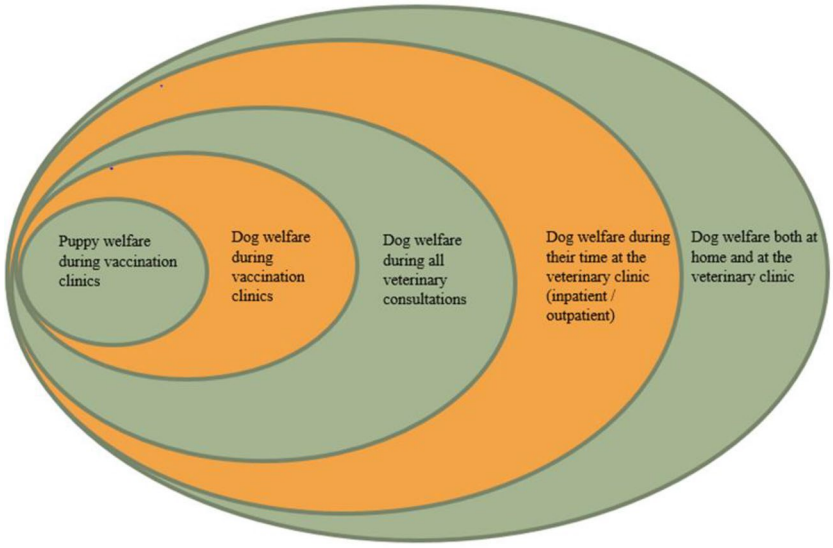
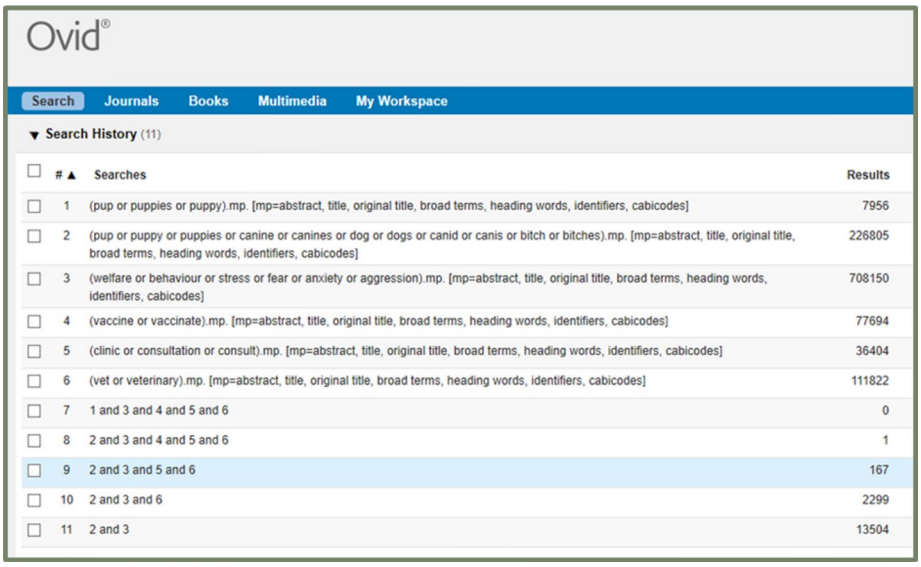


Figure 2. An example of how the planned original study topic can be widened out in ever-increasing circles until the author finds the zone that allows them to show mastery of depth and breadth of relevant knowledge and understanding. This is just one way that this might be expanded – try seeing if you can think of other directions that you could take this from the author's original topic (puppy welfare during vaccination clinics).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☐	3	(welfare or behaviour or stress or fear or anxiety or aggression).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]	708150
☐	4	(vaccine or vaccinate).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]	77694
☐	5	(clinic or consultation or consult).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]	36404
☐	6	(vet or veterinary).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]	111822
☐	7	1 and 3 and 4 and 5 and 6	0
☐	8	2 and 3 and 4 and 5 and 6	1
☐	9	2 and 3 and 5 and 6	167
☐	10	2 and 3 and 6	2299
☐	11	2 and 3	13504

Figure 3. Deciding how wide to take the ever-increasingly circles: the Buckley approach to rapidly trying to identify the appropriate breadth of coverage. Here, each part of the research question (original research study) is individually searched in an appropriate database (here CAB Abstracts on an Ovid platform, typically provided through university libraries in the UK). In line 7, all parts of the research question must be present and yield no hits (Good! It what the student wants to research for their study so they want a "knowledge gap" here). Gradually terms are dropped out of this search strategy. Line 9 has 167 "hits" which suggests that a literature review that addresses dog welfare at the level of veterinary clinic is probably going to be both appropriate and also yield enough useful papers to write an informative, science-led literature review. Remember: not all 167 hits will be relevant so you may need to revise this once you have looked at these papers in more detail.

will be left trying to use popular press material (e.g. Veterinary Times, Veterinary Nursing Times) or text books to increase your reference list, and while these have their place, a literature review that relies heavily on these is a self-handicapped one.

Hint! You might want to have a quick search of the scientific literature to see what is available before finally settling on what you will cover.

Hint! If a theme has little or no research, consider whether this could be incorporated into one of the other themes, and identified as an evidence gap instead.

c. *Are themes that allow you to demonstrate your skills of critical evaluation.* Final year undergraduates are expected to be able to critically evaluate and discuss the evidence that they cite, so if you pick themes which are very descriptive (e.g. the physiology and anatomy of teeth) you will restrict your ability to demonstrate this important skill. One theme that is very descriptive can be fine if important to be covered, but three themes that are largely descriptive and you have almost certainly ensured that, even if you have lots of references and achieve point (b) exceptionally well, you will probably only achieve a mark in the 50s (possibly low 60s) for your literature review. Add in critical evaluation (and do it well!) and you are on your way to a 70% and beyond grade for this piece of work!

d. *Are themes that will allow you to identify research gaps that are relevant to the study that you are planning to carry out.* This literature review must pave the way for your work. What better way than to take the reader on a journey through a topic that feels important to them (step "A") but then leaves them feeling frustrated, slightly annoyed and cheated that no one has yet plugged some important research gaps that could result in improvements to veterinary nursing practice or the main outcome of our endeavours (animal welfare). So much better if the story can end with the good news that they turn the page and the original study (yours!) is going to immediately replace that frustrated longing for the gap to be closed with the evidence needed to do just that.

By the time you reach this point you should have a really good starting point for a very nice literature review. You have a draft outline of your literature review structure, have provisionally identified an appropriate level of broadness of subject field that is still clearly relevant to your original study, and have identified appropriate potential sub-themes to explore within this subject field. You are now ready to finalise your aims, to start preparing to read and appraise the papers, and then to start putting pen to paper to write your literature review. In part two how to write the literature review in a way that increases your chance of obtaining a high grade will be explored in detail.

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