

# HOW TO SUPERVISE (AND BE SUPERVISED) ON A RESEARCH DEGREE

*Tips and tools for supervisors and students*



Frank Rennie and Michael Rayner

## **Chapter 8:**

# **Heading for completion**

### **Checking citations and references**

It is amazing how many students get into a muddle over the simple process of ensuring accurate links to the supporting evidence for their claims. Let us get this right; it is not the supervisor's job to check that citations and references are correct, but the External Examiner of the degree certainly will check this. For that reason, it is the supervisor's job to make sure that the research student gets it right. It is not a difficult task, but it can be time-consuming, so the task needs meticulous care.

To lay down some ground rules, when researchers make a claim or a statement of 'fact' in their writing, they need to establish the source of that claim. There are two ways to do this; either the information is new, i.e. as a result of the new research, or it is derived from previous research. When it is the latter, the normal way to credit the source of the

evidence is to include a citation in the text, (such as, ‘There are .... (Rennie and Smyth, 2019)’ or ‘Rennie and Smyth (2019) claimed....’ This then flags the full reference, which is then listed in alphabetical order at the end of the document, which in this case is, ‘Rennie, F. and Smyth, K. (2019) Digital Learning: The Key Concepts. London: Routledge’. (It is also becoming good practice to include the ISBN – International Standard Book Number – for books, and the DOI – Digital Object Identifier – for journal articles, to ensure that subsequent readers can locate the item.) Crucially, if a claim or a ‘fact’ is given without a citation to the supporting evidence, then it is assumed that the information source is the writer. If it is not the writer, then the missing citation is regarded either as shoddy workmanship at best, or plagiarism at worst. Plagiarism – knowingly misrepresenting some other person’s direct words/ideas as your own – is regarded a major misdeed in academia, so an important role of the supervisor is to ensure from an early stage that the student treats accurate referencing very seriously.

We encourage our students to adopt the same rigor that we do, which is, firstly, start to compile the list of references right from the very start of the research project. Always write out the references in full, and do not leave any information out – the chances are that you will forget to go back to correct it. When we find new relevant articles, books, or other resources that we know we want to include in our writing, we add the references to the master list as we read them. Secondly, when we have completed the final draft text (and usually a couple of times before then) we sit down with a printout of the main text on one side, and the list of references on the other. We go through the main text, marking with a highlighting pen every citation that we come across. We then turn to the list of references and highlight it there too. By the time that we have read the whole of the text, every citation should be highlighted, and every reference should also be highlighted. If there are any missing references, or articles included in the reference list that we have not actually mentioned in the text, then this is the opportunity to update the reference list by either adding or removing the relevant items. It is a laborious process, but it is fool proof.

The danger of not doing this becomes obvious when a particular citation catches the eye of the External Examiner, and they turn to the reference list for the full details. If the reference is missing, they do not know whether the writer has made a one-off mistake, or if there are many more missing references. The result is an almost mandatory viva condition to 'Check all references' before passing the dissertation, rather than getting a 'no corrections required'.

## **Appendices and archives**

As with every piece of substantial research, it can be a problem to decide what needs to stay in the main text and what can be left out without substantially impacting upon the ability to understand the narrative. This is where appendices can be useful, and an important role of the supervisor is to give gentle guidance on what needs to go into an appendix and what is simply best kept in an archive. The temptation of the early career researcher is to believe that everything is necessary, and in the classic 'can't see the wood for the trees' mentality, to cram loads and loads of supplementary data into appendices that are rarely (if

ever) read subsequently. The golden rule of an appendix is that it should contain information that is not so important that it needs to be in the main text, but that it can still substantially contribute to understanding the background detail of that main text by providing supplementary evidence. A good example of this would be a large table of numerical results (in a quantitative study) or a key interview transcript (in a qualitative study). Both of these types of appendix can furnish crucial raw data that can enable an experienced reader to 'get behind' those research results and help them to make their own interpretations (or understand the decisions made by the research student).

An appendix is not an excuse to dump all the information that has been collected for which the researcher has not been able to find a place in the main text. Crucially, the appendices (and footnotes/endnotes) are often included in the word count for a dissertation submission, so weighty appendices risk robbing space for the more substantial (and more important) presentation of the main text arguments. If a point is critical to the development of the research conclusions or interpretations, then it should probably be in

the main text; if it is important but not crucial to see in detail and can be summarised in the main text, then perhaps a fuller account can be included in an appendix. There will also be some information that has a background relevance, but should neither be included in the main text nor the appendices, but this does not necessarily mean that it can be thrown away. There will be information such as lists of consultees, or anonymised participants codings, or transcripts of (most) interviews that might be needed in the months following completion of the research. Reading these are not germane to understanding the narrative of the main text, but they might be useful, for instance, when writing a subsequent article for publication.

In some cases, for example if the researcher does not intend to continue with the research topic, some of this background research might be archived with the university library, or with the research supervisor. Increasingly, it is a common requirement, for research that has received public funding, that the raw data should be made publicly available, and this creates new opportunities and new difficulties. Currently the data is required to be publicly

accessible for ten years (or ten years from the last time the data was accessed) so it is conceivable that the raw data will be openly available for far longer than any individual research project, and possibly even longer than the lives of individual researchers. This places an important new responsibility on the researcher to be very organised and very transparent in their collection and use of data. It also requires an accentuated awareness by the supervisor (and then the student) about the inclusion of relevant information for the successful completion of the dissertation, what can go into an appendix, and what should be kept in an archive.

## **Reviewing and revising**

One of the strange but common occurrences in producing large pieces of writing is that the writer frequently becomes so close to the text that small (and even some large) errors get completely unnoticed. We sometimes tend to read what we think we have written, and spelling mistakes or misplaced words simply get overlooked. Supervisors have different ways of dealing with this. Normally we would give a detailed commentary chapter by chapter, and then quickly



read a revised version, but do not subsequently revisit it unless a later chapter forces some sort of re-think. It is usually emphasised from the very start of a PhD that the research project should *belong to the student*, not to their supervisors, and as the final draft of the dissertation approaches completion, this is a crucial time for the student to assert their ownership. In the oral defence of the thesis at a viva, it is the student who will be held responsible for any errors and misspellings, but the supervisors can effectively support this process by timely guidance.

Firstly, in addition to supervisors reading every chapter as it is drafted, students should be encouraged to review and revise the entire dissertation just before they start to write the final chapter that brings everything together. In this way writers can check for any small typos and at the same time refresh their memory about what they have written earlier. (It can be a relatively long time between the start and the end of the writing process, and memory can play tricks!) Next, it is usually a good idea to get an extra person (apart from the writer and the supervisor) to read through a document (in stages) to give some feedback. Although it

helps to have someone who is knowledgeable about the subject material, the main thing is to have someone that can be trusted to tell you the hard truth. A friend or partner can be a great source of guidance to clarify the writing ('what exactly do you mean by this sentence?'). Thirdly, it is a good idea to re-read the dissertation (yet again!) after you think that it is finished – perhaps not every single page, but certainly to dip into sections and check that the detail still makes sense. Do not skim over the small things such as tables or the caption of diagrams, these are just as likely to contain errors as any other paragraph.

It seems superfluous to say it, but as each section or chapter is backed up for security, it is important that each saved copy has a date and/or version control number on every page. With multiple back-ups and multiple versions of revised copies, it can be very easy to create confusion. Ultimately, however, there comes a time to stop tinkering or tweaking the text and let it stand on its own merit. In some universities, the submission of the dissertation requires to be countersigned by the supervisor to agree that it is now in a fit state to be sent to an External Examiner for

evaluation, but in other institutions the supervisors are simply informed. Either way, the student is responsible for the final contents and its appearance, and the supervisor is responsible for helping the student to produce the best submission under the prevailing circumstances.

### **In the hot-seat – defending the thesis**

One of the unusual aspects in studying for a PhD is that the final examination of competence (and quality) is based not simply on the written dissertation but, perhaps more importantly, by giving a verbal defence of the work in response to external scrutiny. Normally this takes the form of an extended question-and-answer discussion over a couple of hours with an External Examiner from another university and an Internal Examiner (representing the host university). The student is tested to ensure their authorship of the dissertation and to justify the methods of data-collection, analysis and the formulation of conclusions. What exactly is the new contribution made by this piece of knowledge to the subject discipline as a whole? Is it really new primary research? Across the universities network, the

regulations might be applied slightly differently, ranging from a quiet discussion with just the examiners present (the supervisors are not admitted) to a full public audience (as in Scandinavian universities) with almost anyone who has an interest in the subject being able to spectate.

As students will not have any previous experience of the viva voce – the oral defence – of their work, it goes without saying that the supervisory team have an obligation to prepare the student about what to expect. This can be done either as a series of conversations, or as a full ‘mock viva’ in which academic colleagues of the supervisor will role-play and raise the sorts of questions or problems that the student might be expected to encounter during the real viva. Student responses can be explored and rehearsed. Normally the viva is not a confrontational event, but it can certainly be ‘robust’ and very demanding for the student. Almost any aspect of the research can be explored, and the student needs to be able to explain and justify what they did (and did not do) to reach the conclusions of their thesis. Common questions ask the student to summarise the research, to indicate their unique contribution made to the

subject, to interrogate the quality of the results, and to explain in detail how those results have been achieved. The selection of External Examiner is usually as a result of a nomination to the university by the research supervisors in a shortlist of potential academics that have an expertise in the subject area. The student has a right to expect that the examiners will be objective and fair, but almost nothing is off limits for commentary, from simple errors in spelling or grammar, through gaps in the literature review, to the logic of data-collection or the presentation of the results.

In some cases, the examiners might challenge the student about what they have written, while at the same time being in broad agreement with the student – but they want to gauge the student response. The examiners want to be confident that the PhD student really does have an intimate understanding of both the subject matter and the processes of advanced research. The viva report that is fed back to the university will not only make a recommendation of a pass, or ‘pass with amendments’ (it is possible, but rare, to have absolutely no ‘corrections’) there may also be recommendations that need to be met before the award is

confirmed. These recommendations might simply be spell-checking or entering a missing reference or two, but there might also be a requirement to re-write, extend or remove some aspect(s) of the dissertation – such as the addition of more up-to-date references, a clarification of technique, or a re-working of the conclusions. Whatever the recommendations might be, the student now has an unambiguous written list of things that they need to address in order to gain the PhD and a time requirement for these changes to be made. It is perhaps the clearest guidelines that they will ever have had during the entire PhD study, and a small price to pay for the award of the highest academic degree.

## **Polishing the finished product**

At the end of the viva there are various mixed emotions swirling around, for both the former student and the former supervisor. Relief that it is 'all over', happiness or displeasure with the final outcome, and, almost inevitably, speculation about what happens next. All of these reactions need to be recognised and addressed before the situation

can move on. By the time the student actually progresses to making a submission of the final draft of the dissertation, the entire text should have been checked and rechecked by both student and supervisor, so outright failure is comparatively rare. The act of submission of the dissertation triggers an independent evaluation of the entire work, and probably without exception there will be several errors, gaps, and/or ambiguities revealed. It is uncommon for a student to pass with absolutely no corrections (though it does happen!), so the examiners will usually make several observations, recommendations, and conditions before the award of the degree is confirmed. These observations set a backdrop to the report and might cite examples of how well the student performed, such as in the write-up of key aspects of the dissertation, or in the cut-and-thrust of the viva interview. The recommendations are usually a mixture of optional improvements, such as suggestions to make the narrative a bit clearer, or encouragement to re-work a couple of key sections for subsequent journal publications. The critical commentary, however, is the list of conditions given, for these need to be

completed satisfactorily before the award of a pass is confirmed by the university.

There are three broad types of conditional statements; firstly, what everyone hopes for, is the award of a pass 'with minor modifications'. This usually means relatively light corrections, such as correcting spelling and grammar, perhaps missing or badly cited references, and minor formatting such as captions to diagrams or 'widows and orphans' in the text. Probably the bulk of successful PhD vivas end up in this category. Secondly, there could be a condition of 'pass with major modifications'. This is not necessarily as serious as it might sound at first, for major adjustments might simply mean the reorganisation of sections of the dissertation, or the removal, addition, or extension of text that has already been presented. In some cases, the student has gone off at a tangent to the main topic, in other submissions there are important gaps, such as the omission to reference some up-to-date or key academic works. These conditions need to be addressed adequately in order to lift the final dissertation to the level required for the award of a PhD. The third category, which



no-one ever really wants (including the examiners) is the requirement to 'resubmit the dissertation'. In reality this means that there is evidence of the student having completed a reasonable body of research, but this is offset by a range of serious omissions and/or lack of attention to detail which cannot simply be 'tweaked' into an acceptable format, so a complete 'failure' at this stage is comparatively rare.

The good output of any viva is that the candidate for the PhD will be told exactly what they need to do next in order to bring the dissertation up to the mark. Sometimes a full list of typographical errors will be supplied by the examiners, while on other occasions the student will simply be told to 'check all spelling and references'. These conditions normally come with a recommended time-frame; frequently 3-6 months for 'minor' amendments and 6-12 months for 'major' changes, although in fact the amendments rarely take that long. Minor changes are usually checked and approved by the Internal Examiner, while major changes will normally be sent to both examiners for approval. With the confirmation of the final award, the relationship between

How to supervise (and be supervised on) a research degree

the supervisor and student alters subtly to become an association of professional colleagues, and that is a whole new experience.