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Introduction

When I worked for a number of years as a college lecturer teaching clinical medicine, biochemistry and physiology to students studying for degrees in medicine and science, I graded thousands of term papers, practical write-ups, theses, student seminar presentations and end of term exam scripts. Obviously, one of the most important determinants of the grade a student got was how well they knew the material and demonstrated that knowledge. However, it became very clear, very quickly that there were other things I and my fellow examiners valued that would lead to a student's grade being marked up or down. Two students could demonstrate similar levels of knowledge and yet get very different grades. So, I started to observe and take note of these things. This is a summary of those observations, along with suggestions on how to improve your grades.

This book is written from the perspective of one individual. If you ask a hundred different professors to write this kind of book some will include things I have not included. Some will consider some of the things I have included to be unimportant. You will also have your own opinions, based on your own experiences as a student and you may agree or disagree with some of the things I suggest. That is fine. I don't claim a monopoly on the truth. Feel free to reject any of the suggestions I make. However, I hope you will consider adopting some of the suggestions that are new to you.

This book is also written from the perspective of a lecturer in science and medicine and the strategies are most applicable to that broad range of academic disciplines. Some of the strategies may not be relevant to students studying and taking exams in other academic disciplines. For example, I devote a section to using and drawing diagrams. This may not be as relevant to someone writing papers for an English course as it is for someone writing papers for an engineering course.

However, many of the strategies are relevant to everyone and especially the basic principle outlined in the next chapter – find review articles in the top journals in your particular area of study and model *the way* those reviews are written.

Handwriting

If you read the instructions for authors submitting articles to major academic journals they almost all require you to submit the paper in word processed form – either printed out and mailed to them or, more commonly now, emailed as a word processor or pdf file. Ideally, therefore, if you are going to model the process of writing a review article for a journal as closely as possible in your term papers etc. you should submit word processed documents.

This is not always possible and sometimes you have to submit a handwritten document, either because it is a written exam and the examining authority provides paper rather than word processing facilities or simply because you are told, for some reason, to submit a handwritten paper.

Another reason you might choose to submit a handwritten paper is because there are a lot of diagrams or complicated formatting – for example a written report of a practical or an exam involving a lot of calculations. However, in these cases you may be able to do the parts with complicated formatting such as calculations or diagrams by hand, scan them and include scanned images in your word processed document. I will talk more about scanning documents into word processor files in another chapter.

Whatever the reason, sometimes you have to submit papers that you have handwritten. For those with poor handwriting this can create a lot of concern about how their poor handwriting might impact on their grade.

In general, I have found most examiners to be extremely forgiving of even the poorest handwriting – including those examiners who have beautiful, legible handwriting themselves. As an examiner, you are interested in whether a student has grasped and understood certain facts and concepts. You don't need to be able to read every word in order to be able to ascertain this. My experience has been that even a script with handwriting that is almost impossible to read, with a little persistence on the examiner's part, yields enough information to be able to make this judgement.

Part of the explanation for this tolerance of poor handwriting may come from recent studies on how people read. Essentially, as long as the first and last letter of the word are decipherable it is often possible to make sense of words and sentences, even if the letters in the middle of the words are jumbled up. Take this as an example:

Aoccdrnig to a rscheearch at Cmabrigde Uinervtisy, it deosn't mtttaer in waht oredr the ltteers in a wrod are, the only iprmoetnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe.

from <http://www.mrc-cbu.cam.ac.uk/~mattd/Cmabrigde/>

Many of the suggestions in this book, and particularly in this section, will help to overcome any potential disadvantage of poor handwriting. Anything that increases the amount of white space and divides blocks of text up into smaller areas makes a script look better and easier to read – poor handwriting or not. So, diagrams, graphs, tables and figures, bullet point lists, subheadings with spaces between sections, and a space of a line or two between paragraphs will all help. I have also seen some exam candidates with poor handwriting adopt a strategy of writing on every second line, which can also help.

Pages with densely packed text and little or no white space from diagrams, tables, lists and so on, even if the handwriting is legible, can be a real heartsink for an examiner as they sigh and plough into yet another featureless, seemingly monotonous script. Even if the content turns out to be excellent, the initial impression created is not a favourable one.

Concentrate on the things you have control over. At this stage in your life the quality of your handwriting is something you probably *don't* have much control over. Neither do you have any control over the examiner's reaction to poor handwriting. You do, however, have control over whether you introduce more white space into your script by using subheadings, figures, tables, lists, spaces between paragraphs and so on.

Key point: *If you have poor handwriting use techniques to create white space to compensate.*

SECTION THREE

A PICTURE IS WORTH A THOUSAND WORDS

If you asked me to pick the one thing in this book that would have the most impact on your grade it would be the contents of this section. In most academic disciplines there is a way of summarising information in the form of a picture, diagram, graph, figure or table.

For convenience, for the rest of this section I will use the term “figure” to refer to the broad range of data summary techniques that includes pictures, diagrams, figures, graphs and tables. From a formatting point of view they have many features in common.

Pictures and tables have a number of advantages:

- They are a way to break up monotonous pages of densely packed text – in other words create the white space we talked about in the section on appearance.
- If you have a preference for processing information in a visual way (more about information processing styles overleaf) you will probably be able to express yourself well using diagrams. Even if you are not a visual information processor, the person grading your article might be and they will be delighted to see information presented in a more visual way.
- If you look at your collection of example review articles you will find that in most academic disciplines review articles make extensive use of diagrams, figures, graphs and tables. If you are going to model these articles then you must use pictures too.

The chapters in this section will look at what to include when drawing a graph, the importance of referring to a figure in the text of the review, and some of the technical aspects of getting graphics, tables etc. into word processor documents. All pictures, diagrams, graphs, figures and tables should have a title and a legend. We will talk about figure titles and legends in one of the chapters.

Abbreviations

It is acceptable to use abbreviations but you must define clearly what you mean by that abbreviation. For example, when a cardiologist writes the abbreviation M.S. they are usually referring to a disorder affecting one of the valves of the heart called mitral stenosis. However, when a neurologist talks about M.S. they usually mean the neurological disorder multiple sclerosis. A cardiologist reading a note written in the patient record by a neurologist can get very confused and vice versa. This is just one example of the kind of confusion that can be created by using abbreviations.

How to define abbreviations

When writing your review articles there are two ways you can define what your abbreviations mean.

One way, and the most common way in the relatively short reviews you are most likely to be writing, is as follows. The first time you use an abbreviation you define what that abbreviation stands for by writing the complete word or phrase and then in brackets after it you write the abbreviation. Look at the example below.

This review discusses the immunological basis of Multiple Sclerosis (M.S.).

Once you have done this, at the first occurrence of the word or phrase to be abbreviated, you can use the abbreviation alone from then on.

If, however, you are writing longer works (e.g. a thesis) it is best to write a glossary. When you have finished writing, pick out the abbreviations you have used and list them on a separate page. Beside every abbreviation on this list write what you mean when you use that abbreviation. The glossary is usually placed near the beginning of the thesis so the reader will be aware of its existence and be able to refer to it easily.

Some abbreviations don't need to be defined

There are some abbreviations that are universally understood, such as cm for centimetres. But these are few and far between so if there is any doubt in your mind about an abbreviation, define it or put it in a glossary.

Key point: *When you use abbreviations define them.*

Present Two Sides of an Argument

If you read some of the examples of excellent review articles you have collected you will find that many are addressing a topic about which there is some controversy or debate. Often, the review will present the two sides of an argument that is currently “raging” in the scientific literature.

This is a good way to get better grades in the review articles that you write. If possible, identify an area of controversy or disagreement in the topic you are being asked to review and present the evidence on both sides of the argument. If you want you can also stick your neck out in the concluding paragraph and venture an opinion on which side of the argument you favour and the evidence that convinces you. Be careful not to be too dogmatic about this. If the lecturer or professor set this assignment there is a good chance they are involved in studying or researching this area. It is also possible that they are on the other side of the argument to the position you have adopted in your conclusion. That is not to say you should not state your opinion. Just don't be dogmatic about it. Best to avoid phrases such as “Obviously...”, “It is clear...” or “Any fool can see...” when you are stating your less-than-expert opinion on the issue.

In this book, in the chapter on “formatting a word processed document” the subsection on justification (page 17) is an example of this concept of presenting both sides of an argument.

Key point: *Try and present a discussion of two sides of an area of controversy.*

PULLING IT ALL TOGETHER

The information in this book is not going to help you get better grades if you don't apply it when writing your term papers, examination essays, theses, practical reports and so on. In this chapter I will offer some suggestions on how to go about using the information.

The suggestions in this book probably fall into one of three categories:

1. Stuff you disagree with (that's fine, you don't have to agree with everything I say) or that is not appropriate to the academic discipline you are studying.
2. Stuff you already do as a matter of course.
3. The things you don't currently do regularly but think are a good idea.

If you try to apply all the good ideas at once in your next piece of coursework you will probably get overwhelmed and apply them badly or not at all. Then you will get angry with the book, and demoralised with yourself and with the whole process of trying to get better grades.

So, try and apply the suggestions in this book bit by bit. Before the next term paper, select five to seven of the suggestions that you liked and that you are not currently doing. Try and select one or two from each section rather than just selecting all of the suggestions from one section.

Try and incorporate them as you write this next review paper. When you have finished go back to your list and see if you have incorporated the suggestions. If you have, great. If not, go back and edit your paper to incorporate them.

Under the time pressure and other stress of a written exam, it may not be the best time to try and change the habits of a lifetime. Instead, pick three techniques you are going to try to use in the exam beforehand and try to incorporate these into your answers.

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