

Introduction

Students find it challenging to write their dissertations - when the phrase “how to write a dissertation” was typed into the Google search engine it produced over 80 million hits in 0.65s (Figure 1), which indicates the extent of the problem.

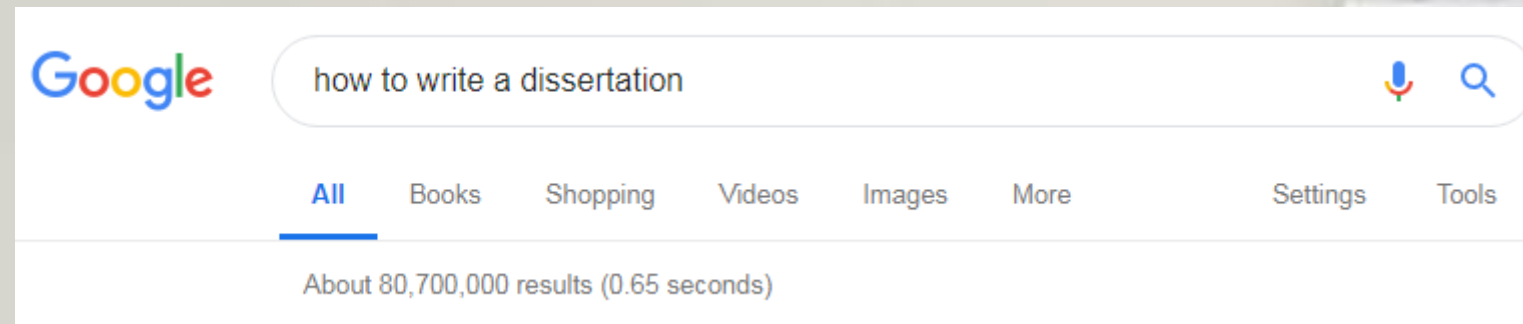


Figure 1. Results of an Internet search.

In the Forensic Science course, final year students are required to write a dissertation in the form of a scientific journal article. The learning outcome to be assessed is “Analyse, evaluate, interpret and present data using a rigorous approach and in an appropriate format” and the corresponding aim is “to develop your ability to write according to scientific conventions” (School of Human and Social Sciences, 2018). However, students do not seem to get a chance to practice writing scientific articles which might hinder them from obtaining high marks. **The idea behind this intervention was to familiarise the students with the structure of a scientific article.** By identifying key structures and/or phrases in paragraphs within a manuscript, **the students should be more confident in writing their dissertations in an appropriate format.**

Literature Review

Students might be unprepared for the standards expected at university, especially in terms of writing their final year dissertations (Greenbank and Penketh, 2009; Scholefield and Cox, 2016). To facilitate dissertation writing, academic and support staff at universities have been conducting various (Boscolo, Arfé and Quarisa, 2007; Switzer and Perdue, 2011). One of the interventions included a series of workshops which focused on three major activities: text analysis, classroom discussion, writing; with the first two containing elements of comparing good and poor quality texts (Boscolo, Arfé and Quarisa, 2007). However, little synthesis writing tasks were performed – this was also commented in participant feedback.

Another article describes an attempt to improve literature review skills (Switzer and Perdue, 2011). A seminar was conducted targeting graduate students and focused primarily on improving their information literacy. The authors reported that some elements of the seminar were successfully implemented in teaching by the university’s staff (Switzer and Perdue, 2011). Even though literature review (the main scope of the seminar) is a vital part of any dissertation, it would be beneficial if the intervention had also included information on writing research-based dissertations.

On the other hand, writing instructions should be implemented into the curriculum and this was found to be beneficial in first-year students (Wingate, Andon and Cogo, 2011). Furthermore, improving academic writing can be achieved by simply following formative feedback provided by the tutor or supervisor. This was confirmed by a small-scale study conducted on first-year students (Wingate, 2010). However, these studies did not collect long-term data, i.e. do these developed writing skills improve dissertation writing.

Context

The intervention was conducted in the Experiential Learning module for the final year (level 6) students on the Forensic Science course. This particular session was on research and included writing scientific papers. It was then linked to their dissertations which should take form of a scientific manuscript.

References

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Methods

A peer-reviewed journal article was selected. The topic of the article was relevant to the course (i.e. Forensic Science) and contained concepts/instruments the students should have already been familiar with. The manuscript was divided into smaller paragraphs.

Each of the participants received one or two paragraphs (depending on the length of the text). There were two groups, with each group receiving sections from the same paper but none of the paragraphs were replicated. The students were asked to:

- i. identify to which section (*Introduction, Methods and Materials, Results, Discussion, Conclusion*) the paragraph(s) belonged;
- ii. re-assemble the pieces into a manuscript.

At the end of the activity, the assembled paper compared to the original manuscript

Two assessments were compared – the research proposal and the final dissertation. Both of these written assignments have a similar structure and therefore the effectiveness of the intervention could be evaluated. In order to eliminate the effect of the assessor on marking (Philips, 1990; Pitts, Coles and Thomas, 1999), also known as the hawk-dove effect, only assignments marked by the same person were taken into account.

Evaluation of Intervention

The idea of the intervention was that by identifying the sections, the students would be made aware of the type of information suitable in each section. This would then help them in writing their dissertations.

Seeing how **focused and engaged with the activity the students** were, they seemed to have enjoyed the work, especially the re-assemble of the manuscript. Having discussed the intervention idea with colleagues within the Forensic Science course, they agreed that **there is need for such activities, especially for final-year students.**

Table 1. Comparison of the marks for the respective assignments.

| Student | Present at session | Mark for | | Change in mark |
|-----------|--------------------|-------------------|---------------|----------------|
| | | Research proposal | Dissertation | |
| Student A | NO | 90 | 81 | ↓10% |
| Student B | YES | 88 | 73 | ↓17% |
| Student C | NO | 41 | Not submitted | Not applicable |
| Student D | YES | 73 | 68 | ↓7% |
| Student E | NO | 45 | 66 | ↑47% |
| Student F | YES | 88 | 73 | ↓17% |

There does **not seem to be a clear correlation between attending the session and improved marks** (Table 1). Only one student improved their mark, a student not present during the session. However, from the students who attended the class, two out of three remained in the same classification, despite the decreased mark.

A possible reason for the poor outcome of the intervention might be due to **all of these students having written literature review based dissertations whereas the chosen paper was research based.** With the wealth of information accessible to the students via the Internet, students often struggle with choosing sources containing appropriate knowledge (Switzer and Perdue, 2011). Writing **literature reviews is misunderstood by students as only compiling information into a summary**, without joining the wider discussion on the chosen topic. In addition, **this intervention should be combined with a workshop on academic writing implemented in the module** (Wingate, Andon and Cogo, 2011).

Final Considerations

Given the small sample size it is difficult to assess the effectiveness of the intervention. However, there are clearly areas of improvement and this activity should be repeated with a new cohort of students. For example, even though the students should primarily compose research-based dissertations (accreditation conditions), some of the students might still write literature reviews for their dissertations. This is a considerable limitation of the study and any future intervention should reflect this.

Additionally, upon reflection, **a more significant emphasis on the aim and benefits of this intervention should be made.** This should result in the students going back to the activity when they write their dissertations.