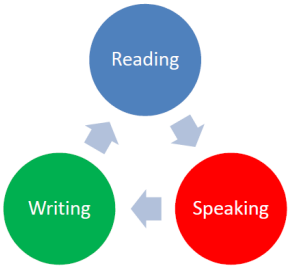

Research Skills 06-06991 Autumn 2018

Assessment (for students registered for a PhD)

The assessment takes three parts: an investigation (study in collaboration) with a written report, and an oral presentation. The presentation is worth 30% of the final mark; the investigation and written report is worth 70% of the final mark.

The Research Student Monitoring Group has set a requirement that each PGR (that is, students registered for research degrees such as PhD, MPhil and MRes) is expected to achieve a mark of at least 60% in this work. Failure to do so without mitigating reasons may incur a formal warning under the University's Code of Practice on Student Attendance and Reasonable Diligence (www.birmingham.ac.uk/Documents/university/legal/18-19/CoP-Student-Attendance-Reasonable-Diligence-18-19-PDF-112KB.pdf) and a requirement to repeat coursework or the module in part or in whole.

1 Oral presentation – (Learning Outcome 4)

The task is to give a talk on your PhD, MPhil or MRes topic. Your talk should last 15 minutes. The talks will be to the remainder of the students following the 06-06991 Research Skills course plus other members of the School who wish to attend. A title and informative abstract must be emailed to the module tutor at least two working days before your talk. (Learning Outcome 4).

There will be a trivially small prize for the research student voted the best speaker by their peers.

The date and time of presentations will be posted on Canvas at a later date.

2 Written work – (Learning Outcomes 1, 2, 3 & 4) Collaboration in publication: a study of collaboration rates and citation rates

Refereed journal papers take a significant amount of time and effort to bring to publication. Scientists can be under a variety of pressures to collaborate in their research and publication writing: some funding bodies or governments encourage collaboration (for instance the EU encourages international collaboration); some research groups might encourage multiple authorship to strengthen the cohesion of the group.

Collaboration in a journal publication is defined as a journal paper that has more than one author. Collaborations can be classed into three groups:

1. *Local* all authors work at the same institution.
2. *National* all authors work in one country but from more than one institution within that country.
3. *International* at least one author works in a different country from one or more other authors.

(You may have to make a decision as to how you classify authors who work in different parts of a large organization, for instance, does a paper with one author who works at one part of Microsoft UK and another author who works at another part of Microsoft UK count as "local" or "national"? There may be other classification problems to be solved. The important point is to define your classification and apply it consistently.)

There is some debate as to whether collaboration has an improving effect on research quality. Quality is extremely difficult to measure. One easy measure is counting the number of citations of a paper (or at least citations in high quality publications). It is not at all certain that citation count is a measure of quality - it may be that multiple-authored papers are more highly cited because researchers cite people rather than papers - hence a multiple-authored paper will be more highly cited.

2.1 Research Questions

Unfortunately, this exercise cannot be so thorough as to answer all these questions. Instead it concentrates on the following research questions:

1. Is there a significantly different rate of collaborative work amongst different journals?
2. Has the pattern of collaboration changed over time?
3. Is there a significant difference in quality of research (as measured by number of citations) set against number of collaborators?

2.2 Notes on methodology

An ideal survey would use a very large amount of data, but you do not have time to collect that amount of data.

You should use at least three carefully chosen journals from your field, ensuring that there is a minimum of bias in your selection (for instance, having different publishers, using journals published in different countries, etc). You should confine your study to two years of publication but not contiguous years otherwise you will not be able to answer the second research question.

To answer research question two, you will need to pick two years of publication and collect data for those two years. You will have to decide the time gap between your older and newer journals which you are using. The gap should be larger enough for there to be the possibility of a change in the pattern of collaboration (i.e. the gap should be more than a couple of years or so). You will need to ensure that all your chosen journals were published in both survey years.

You need to pick the years you are going to study carefully. If you want to measure the number of citations a paper receives, you cannot use the most recent issues of a journal. You will need to decide what is an appropriate year of publication to use in order to get meaningful citation data. (You need only analyse citations for the more recent of the two years of journals.)

You will need to have a source of citations counts. You could use Science Citation Index, Google Scholar, Scopus or other suitable retrieval service. (Note, you are not being asked to look in detail at the citations but only the citation count.)

You may find it easier to get meaningful results if you classify articles by the number of their authors into these four classes:

- 1 author
- 2 authors
- 3 authors
- More than 3 authors

2.3 Reporting your work

Your investigation should be written up as a scientific paper in the style of a specific journal or conference. You should choose a journal or conference appropriate to your subject area and which will be best in training you for research publication in your field. Your paper should describe your investigation, present your results and offer an interpretation of your results.

It is expected that you shall use LaTeX. You should clearly state (in a footnote or an end note) which style you have used and give a URL for further information. If you cannot decide on a suitable journal or conference style, you should follow the instructions for authors from Springer's Lecture Notes in Computer Science (LNCS) (https://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines).

2.4 What you should submit

A PDF of your paper together with a listing of the LaTeX source and BibTeX source (if appropriate).

You must also submit the Student Feedback template (as a PDF).

2.5 When you should submit

You should submit via Canvas by 12 noon, Tuesday, 15^{th} January 2019. A final cut-off date is 12 noon, Tuesday, 22^{nd} January 2019 but see the note about penalties below.

If work is submitted late and no extension has been granted, then a penalty of 5% on the mark actually achieved should be imposed for each day that the assignment is late until 0 is reached or the final cut-off date is reached, for example, a mark of 67% would become 62% on day one, 57% on day two, and so on. The days counted will not include weekends, public and University closed days.

See: Code of Practice on Taught Programme and Module Assessment, 2018-19. Sec: 11.5.

Peter Hancox
14^{th} November 2018