MANCHESTER 1824

The University of Manchester

‘How to approach the assessment of a completed dissertation.’

PRINCIPLES OF ASSESSMENT FOR EXAMINING THE MFOM DISSERTATION

Faculty of Occupational Medicine, Royal College of Physicians of London.
Monday 12th March, 2012
(held at the Royal College of Anaesthetists, London)

-

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The University of Manchester

http://www.medicine.manchester.ac.uk/oeh

Remember …

We were all there once …

Try to look at the issue from the candidate's perspective …

FOM guidance

Why does the training syllabus have a research component? What is being assessed?

A1: The process of conducting a research dissertation teaches trainees many useful skills

– in appraising scientific evidence,

- in designing and mounting a study to test a carefully formulated study question,

- in interpreting findings,

- in writing a logically argued scientific report

http://www.facoccmed.ac.uk/library/docs/t-qa4-mfomdiss08.pdf

Likely minimum requirements for any dissertation

- Be able to define a problem in terms of needs for an evidence base.
- Be able to undertake systematic literature search.
- Be able to undertake a systematic and critical appraisal and review of scientific literature.
- Be able to produce an evidence based digest of the literature.
- Be able to frame questions to be answered by a research project.
- Have good written and verbal presentation skills.
- Demonstrate curiosity and a critical spirit of enquiry, and where appropriate a critical attitude towards current practice.
- Acceptance of the need for critical review and for research so as to found a solid base for good practice.

http://www.facoccmed.ac.uk/library/docs/t-qa4-mfomdiss08.pdf

Extract from the PMETB-approved Specialist Training Curriculum for Occupational Medicine (July 2007). **2.2 Research Competency:**

To demonstrate an effective involvement with a research project and to undertake research and have a good knowledge of research methodology.

Summary of key points

- Title and ABSTRACT
- Introduction
  - usually critically appraises what is known
  - determines the objectives / hypotheses for the work
- Methods - follow logically from the above
- Results - ditto-
- Conclusions
  - link back to objectives
  - summarise results
  - discuss strengths and weaknesses of methods
  - any recommendations follow logically from above

Generic issues:

Structure

Style

Language

Format

Citation of references

etc

The good, the bad and the ugly…

(from experience)

Credit points…

The abstract

Read easily in a couple of minutes:

- tells you why the work needed doing, and what if anything is special about it, and therefore what its aim was
- outlines clearly how it was done
- summarises the salient findings (positive or negative)
- draws a valid and useful conclusion
- would (usually) be clear enough for a conference to consider it

Evidence of abstract (well) written at the end:

i.e. not before the results are analysed,

But not at the end as in the last weary night before submission!

Raspberry award…

" The paper counter".

• emphasis on number of papers found through literature search and on their self professed conclusions rather than on their quality

•" I found several papers about this in my literature review … 6 showed X and 5 showed quite the opposite … so who to believe?"

→ if that is as far as the literature review goes then it suggests lack of critical appraisal skills notably limited knowledge of study design and inadequate understanding of bias, confounding, and chance

Credit points…

The literature review

- explicit as to why and how it was done
- identifies and discusses the salient papers, showing good critical appraisal skills
- concludes with the unanswered questions / gaps in knowledge that need to be filled
- clearly leads to the need for and the aim, and the specific objectives of the dissertation

Raspberry award…

" The bad writer".

- no structure – just reams of prose

or

- 3.1.5.7.2… very complex structure
- illogical (flitting or unsystematic) structure
- 'copy and paste *déjà vu'*
- bad spelling, grammar or formatting
- step changes in writing style

→ this last may suggest the possibility of plagiarism

Credit points…

Results

- follow logically from the stated objectives, and the methods used
- start with simple descriptors e.g. response rate, demographical information
- have balanced and appropriate use of text, tables and graphics
- use statistical tests sparingly starting with simple analyses
- more sophisticated adjustments come later (only if necessary)
- all directed at answering the explicit research questions

Raspberry award…

" The statistics dumper".

• over use of statistics, when not justified or when numbers are too small

•'statistics' results dumped in large tables with almost every conceivable metric (e.g. mean, median etc)

• data trawling and multiple testing

• little if any highlighting in the text of the key findings

→ suggests lack of understanding of the appropriate application of statistics

→ even if the correct test is used but results are just pasted in indiscriminately this may raise questions as to who actually did the statistical analysis (lack of competence / laziness)

→ may cause concern about the candidate's interpretation skills

Credit points…

The discussion

- explicitly matches the dissertation's findings to the candidate's own prior objectives / hypotheses
- critically acknowledges the strengths and weaknesses of the work
- sets the dissertation in the contemporary context of evidence and practice

Raspberry award…

" The overzealous recommender".

• Recommendations that bear little direct relation to the subject of the dissertation

• or that are not justified or out of disproportionate with the strengths of the findings of the dissertation

→ might be a benign flaw of a passionate and overzealous candidate

→ but could raise concerns about lack of logical argument, risks of over-interpreting or mis-interpreting evidence

Credit points…

Final conclusion and recommendations

- well argued
- acknowledgement of shortcomings but showing that the candidate has learnt from them
- justified recommendations
- leaves a clear message
- may improve the evidence base and/or quality of practice in occupational medicine

Raspberry award…

" The reference and appendix stuffer".

• Long reference list, many being rather tenuously linked to the subject

• Massive appendices but which add little if any useful supplementary information

…"look how much work I did … feel how thick it is"

• Inadequate cross linkage to / within the dissertation text

• Length might vary inversely with the quality of the dissertation (hypothesis yet to be formally tested)

Faculty of Occupational Medicine report:

DISSERTATION (OR EQUIVALENT EVIDENCE) REPORT

General comments:

a. *Is the submission well presented and appropriately laid out?*

b. *Does the abstract clearly describe the work?*

c. *Are there sufficient, relevant background data, … appropriately cited .?*

d. *Is the study aim clearly stated?*

e. *Is the methodology appropriate to address the aim, and clearly explained?*

f. *Are statistical methods used appropriate for the data collected & study aim?*

g. *Are results clearly presented, and tables and figures clearly annotated and referred to at appropriate points in the text?*

h. *Is there a reasonable discussion of the study findings, potential bias and the benefits and disadvantages of the study as carried out?*

i. *Are the findings placed in context with Occupational Medicine policy or practice?*

j. *Does the statement of contributions clearly outline the support that the author has had from other sources in producing this dissertation?*

k. *Are any ethical issues clearly stated and, where relevant, ethics approval confirmed?*

Overall perception…

Overall positive perception…

- *Examiner perspective:* The candidate has shown a positive attitude towards the value of evidence in the policy and practice in our specialty, has shown the critical skills to appraise and / or generate this evidence, and has expanded their (and our) knowledge base

- *Peer perspective:* An average occupational physician should understand it all, find it compelling enough to read from beginning to end and learn something from it

- *'Client' perspective:* If the candidate wrote and submitted a document of this standard to her/his factory manager, union safety representative or the GMC appointed 'Responsible Officer', this would do credit both to the Member and to our Faculty

- *Wider perspective:* An average 'broadsheet reader' would understand most if not all of this, accept its value, and remember the 'take home message

Overall, agreed recommendations
(please highlight as applicable)

a. We would accept the dissertation in its current format

b. We would accept the dissertation with the minor modifications† highlighted above.

c. The major modifications† highlighted above should be made and we will reassess the dissertation after they have been made.

d. We would reject the dissertation on the grounds that we foresee that even major modifications will not make it acceptable for MFOM.

† candidates submitting a dissertation written “for purpose” will revise the dissertation; candidates submitting equivalent evidence will respond in a Commentary Appendix.

Overall quality assessment and Peter Taylor Award

(please highlight as applicable)

1.We would rate the work in this dissertation in its current format as below the minimum standard for the MFOM. This means an assessment of POOR.

2.We would rate the work in this dissertation in its current format as meeting the minimum standard for the MFOM. This means an assessment of AVERAGE.

3.We would rate the work in this dissertation in its current format as better than that required for the minimum standard for the MFOM. This means an assessment of GOOD.

4.We would rate the work in this dissertation in its current format far exceeding that required for the minimum standard for the MFOM. This means an assessment of EXCELLENT. .

MFOM research competencies .

The research competencies are not used in deciding if a candidate has passed or failed. It is not necessary for the candidate to demonstrate all the research competencies in the dissertation (or equivalent evidence).

To assist the candidate, please indicate the competencies which are demonstrated in the dissertation (or equivalent evidence).

Yes / No answers to the following …

Knowledge: be able to understand: .

1. How to design a research study.
2. How to use appropriate statistical methods.
3. The principles of research ethics.
4. How to write a scientific paper.
5. Sources of research funding.
6. The …application of epidemiological methods in research and in problem solving
7. The application of medical statistics and the interpretation of statistical methods ...
8. Computer based systems for data collection and analysis.
9. Ethical considerations in research.

Skills: [i].

10

Be able to define a problem in terms of needs for an evidence base.

11

Be able to undertake systematic literature search.

12

Be able to undertake a systematic and critical appraisal and review of scientific literature.

13

Be able to produce an evidence based digest of the literature.

14

Be able to frame questions to be answered by a research project.

15

Be able to develop protocols and methods for research.

16

Be able to execute an appropriate study design.

17

Skills: [ii].

17

Plan data collection for simple surveys including sample selection and methods of recording and storing data.

18

Be able to use databases.

19

Be able to accurately analyse data statistically.

20

Have good written and verbal presentation skills.

21

Present investigation and results in the format of a research based report.

22

Be able to write a scientific paper for peer-reviewed publication.

Attitudes: .

23

Demonstrate curiosity and a critical spirit of enquiry, and where appropriate a critical attitude towards current practice.

24

Acceptance of the need for critical review and for research so as to found a solid base for good practice.

25

Ensure patient confidentiality.

26

Demonstrate knowledge of the importance of ethical approval and patient consent for clinical research.

27

Respect individual confidentiality when presenting data.

28

Disposition to cooperation and liaison with statisticians and other research colleagues.

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Thank you…
Discussion is welcome