CONFIDENTIAL

Examiner's Report

Degree:	Master of Education
Student Name and ID:	Robin Hankin 1266402
Title of Dissertation/<u>Thesis</u>:	Metaphors We Teach By
Pathway:	1
Dissertation/<u>Thesis</u> Points:	90

Name and Institute of Examiner:

*This examination report template provides space for your **detailed comments** for the criteria indicated in the **Examiners' Briefing Pack**. The criteria are provided to students, supervisors and examiners to guide the dissertation/thesis grading process.*

Please provide an indicative grade reflecting how the student performed in each assessment area. Examiners should view the overall performance of the students in relation to peers on comparable programmes. The report should be at least three pages long.

Please note: For Pathway 3, examiners should comment on how the work demonstrates a comprehensive depth in the resolution of the practice presented under each criterion below.

1. **Formulate the research question or define the research issue.**

The research question was implicit rather than explicit. In each chapter there seemed to be sub-questions. I would have liked the main research question to be explicitly written along with the sub-questions in Chapter 1. The author's intention seemed to be an exploration of the use of metaphor within his statistics undergraduate courses and AUT's policies and administration that underpinned the course delivery. Because the research question(s) was not defined there seemed to be no clear pathway through the analyses with a mix of AUT course materials and literature findings. Literature findings were used because data were not collected. Data could have been collected if an ethics application had been made to access, for example, students' assessment responses.

It was not clear what the problem was and why it needed to be addressed.

Indicative Grade for this Criterion [ ]

2. **Critically review knowledge relevant to the thesis/dissertation.**

A strength of this thesis was the literature sourced on the use of metaphor. Metaphor was understood well and used intelligently to argue that metaphor was used in diverse ways across a range of situations. There was a good level of synthesis and integration of the literature. The only critique of the literature was an exposition on Lakoff and Nunez's publication "Where mathematics comes from".

Indicative Grade for this Criterion

3. **Plan a research project that executes the selected methodology and methods/tools that address the question or issue.**

Looking across the AUT educational system within which a statistics course was couched was a good idea for a research project. The author referred to the Metaphor Identification Protocol (Pragglejaz) and the Bergsten Protocol when analyzing some data in different chapters but never explained these protocols. A chapter on research methods was missing and hence the reader had to implicitly infer what the nature of the protocols.

Also unclear was why particular "data" were chosen. Why were the three textbooks chosen? Is it because the author used them in his statistics course? Why not choose a data analysis textbook that is commonly used in introductory statistics courses? For the lecturer's spoken words, why were these particular parts of the lecture selected? What was the criterion for selection? Why choose the Binomial distribution? A convenient sample of data? Why were there no assessment responses to analyze? It was claimed that they are not available but NZQA has many exemplars of Year 13 student assessment responses freely available online and much of the Year 13 course is similar to a first year undergraduate course. Why were course evaluation statements not collected?

A chapter on research method including the literature on different methods (e.g., document analysis) and the research procedure and protocols for analysis should have been written to clearly delineate the research pathway. Limitations of the research methods used were not acknowledged.

Indicative Grade for this Criterion

4. **Provide a critical commentary on the research process and outcomes.**

The research process was a mix of actual data and literature findings. The analysis protocols were implicit, and where actual passages of data were used in policy description, course description, and lecturer's spoken words, the analysis was thorough and convincing about the metaphors used. It was a pity actual data was not used for each component of the AUT system, as the mixture of data sources did not produce a coherent argument. Where the analysis was not convincing was in claims that could not be supported. For example, on page 61, there is a claim that "students' metaphors were similar in terms of frequency and intensity to those used in different instructional materials available". This claim cannot be supported with the data presented in the thesis. Frequency of metaphor was not collected or shown. On page 66 in the final conclusion it is claimed, "Metaphor is a component of spoken lectures (shown), statistics textbooks (not shown) and undergraduate

assessment (not shown apart from two quotes not from AUT). Its use is comparable in frequency (not shown) and intensity (not shown) to that of mainstream mathematics (comparison not shown) and similar metaphorical constructions are found." All claims in the thesis should be revisited and softened as very little data was analyzed within each of the components.

Indicative Grade for this Criterion

5. **Reflect on and evaluate the significance of the research in the discipline area.**

The use of metaphor across a system was interesting to read about. It provided another lens into the teaching and learning process. Limitations of the study and implications and recommendations were not specifically mentioned. As each component was analyzed, its relation to the wider literature was acknowledged.

Indicative Grade for this Criterion

6. **Present research thesis/dissertation at a scholarly level.**

The quality of writing is very good and is presented at a scholarly level. The literature was integrated well providing a coherent discussion. The thesis was adequately organized.

Indicative Grade for this Criterion

Required Amendments
Please provide a list of required amendments. Students will be required to make these amendments before their grade is finalised and being eligible to graduate.

There are many quotes in this thesis. Check that each quote has a page number.
p. 13 put brackets around Mantzavinos
p. 14 3rd paragraph "a number of workers" Do you mean workers or researchers? "I discuss root metaphors". What are root metaphors? Please define. In your conclusion you do not refer to root metaphors. Suggest you clearly define your research question and sub-questions and the scope of your study in the introduction section.
p. 15 2nd paragraph word "too" is repeated
p. 16 put year in for Sfard
p. 19 Last paragraph seems out of place. State what this example in statistics reveals about the level of metaphor.
p. 21 1st paragraph References for Bloom and SOLO? Quote repeats the word "the". Be consistent with page references. Suggest p. 336. Check for consistency throughout thesis.

p.22 Explain why probability is on a "shaky and arguably meaningless logical footing". Quote: Again check for consistency throughout thesis the use of "and" and "&". Normal practice for references in brackets is to use "&".

p. 24 5th paragraph. Put a page reference in for Sfard quote.

p. 27 You state you will consider three representative universities. State why you chose these three universities. Suggest you give the University of Sydney a separate section so it is clear what the three universities are.

p. 28 Explain the MIP protocol – write a paragraph on what it is and how it is used. Then state you will use it in some other sections or when you use MIP in the other sections refer back to this section.

p. 29 Justify page as Bartholomew is non-aligned.

p. 36 4th paragraph. Word should be "report" not "reports". Check throughout thesis that verb endings are correct.

p. 38 Top. Here is an example of another research question poked into the thesis. Explain the Bergsten protocol in a paragraph. Why did you choose these particular fragments from your lecture recording? Justify your choice. Note that metaphor is out of alignment on the page.

p. 41 3rd paragraph. Fix gap in word statistics. Low et al. use "assert" not asserts. Last paragraph: Not clear what your metaphor is for "fair coin". Explain further.

p. 42 3rd paragraph. Put BMI immediately after Basic Metaphor of Infinity so reader can understand BMI in next paragraph.

p. 43. At the end of your analysis it is not clear what you found. Suggest you write a summary paragraph on your main findings from that analysis. At end of Section 4.5 it is not clear why there was not enough data on students' use of language. Be specific. Was it because the students in your two recorded lectures did not ask or answer questions? Section 4.6: Not clear how you arrived at the conclusion that frequency of metaphor is low. Did you do a count from the transcripts of your two lectures? Clarify how you are able to make that claim. Without a summary of your analyses it is hard to ascertain how you came to the conclusion that the majority of metaphors were related to "domestic" aspects. Consider producing a table (perhaps in an appendix) covering the two transcripts in total with metaphor elements and counts of them.

p. 46 Justify why you chose these three textbooks. Section 5.3: What textbook is this example in?

p. 47 Why did you suddenly mention Khan Academy? Stick to your chosen textbooks.

p. 52 Section 5.6. You state that "three textbooks were chosen for detailed study and their use of metaphor seemed to be broadly similar." As a reader of this chapter I can find no evidence for this claim. Consider removing this claim.

p. 60 Section 6.4.2 Do you really mean, "assess understanding of these measures" when they are just calculations? What do mean by understanding? Last line: Note "of" is repeated.

p. 61 Section 6.5. Why is informed consent difficult to obtain? NCEA student exemplars are on line. 3rd paragraph: The claims in this paragraph cannot be supported by the evidence you have shown in the thesis. Rewrite this paragraph to reflect the evidence shown.

p. 64. This is a literature review on metaphor in course evaluation rather than an analysis of AUT data. Because you did not include a methods chapter, I suggest that on page 15 when you outline the aspects that are covered that you produce a table that clearly shows for each aspect what data sources you use in the thesis so the reader knows in advance that you use a mix of AUT data, data from the literature etc.

p. 67 There are two bibliographies in the thesis. Remove one of them. Check all your references are correctly formatted. For example, check that the title of the article is in sentence case (e.g., Biggs and Tang)

Recommendation *(please tick one box)*

After examination of this dissertation/thesis I recommend

☐

That the student be granted the following pass grade for the dissertation/thesis.

☐ That the student be granted the following pass grade for the dissertation/thesis subject to the student making minor amendments (as identified by the examiners) to the satisfaction of the supervisors and the faculty Associate Dean (Postgraduate) or delegated authority.

☐ That the student be granted the following pass grade for the dissertation/thesis subject to the student making amendments (as identified by the examiners) to the satisfaction of the supervisors and the faculty Associate Dean (Postgraduate) or delegated authority.

Recommended Grade: ☐

☐ That the student be required to revise and re-submit for further examination within a specified time.

☐ That the student be granted a fail grade for the dissertation/thesis.

I agree that my name can be disclosed to the student ☐

Examiner _____   Date _____