

Starting at the end to undertake doctoral research: predictable questions as stepping stones

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ABSTRACT

This paper suggests that a significant proportion of questions in a doctoral viva can be predicted. Our evidence is based on 25 doctoral vivas where questions asked by examiners were collected and textually analyzed, identifying clusters of themes across vivas. Critical generic questions were drawn from each cluster of themes representing a template of questions as stepping stones against which prospective researchers can use to write, or defend, a doctoral thesis. Propositions are offered that reflect the consequences of candidates being able to predict questions in a doctoral viva.

Preamble

'Where should I start?' This question is not unique to those who are about to embark on their doctoral studies. A quick answer could be to suggest: *'At the beginning.'* Instead of providing such a trite reply, perhaps the response should address more fundamental issues. Doctoral candidates constantly consider how their work will be judged during their viva (Hartley and Fox, 2002). At that time, their research will be finished and their doctoral text will have been written. Nothing can be changed. In this rather final situation, candidates may be reassured that their thesis meets all the 'presumed' assessment criteria, or they may wish to have 'done something differently'.

It is against this background of certainty or concern that candidates may ponder on another question: *'How will examiners determine the doctoral worthiness of my thesis?'* Winter, Griffiths and Green (2000) show that examiners of doctoral theses, from across disciplines, ask questions that show a pattern of consistency. Their evidence is that examiners ask questions of doctoral candidates that focus upon such critical factors as:

- Conceptual clarity in the design, conduct and analysis of the research;
- Intellectual appreciation of how underlying theories relate to issues in the research;
- Engagement with the literature;
- Grasp of methodology;
- Coherence of argument;
- Presentation of the thesis and compliance with academic protocols.

Their conclusions suggest that examiners expect the text of theses, as well as the responses from candidates during a doctoral viva, to provide positive support for these critical factors. Thus, it would appear to be important for candidates to appreciate how examiners approach their task of examination (Denicolo and Boulter, 2002), and to acknowledge this as they start their doctoral journey.

Given that doctoral candidates wish to complete their studies successfully, then an answer to the question might be to reflect upon some words from T.S. Eliot in his Four Quartets:

*What we call the beginning is often the end
And to make an end is to make a beginning.
The end is where we start from.*
(Eliot, 1974)

These sentiments capture a variety of notions that have relevance for researchers. They suggest that clarifying the purpose of research may then determine the final destination of that investigation. The words also imply that successful completion of research is a prelude for researchers moving on to their next research project, or that other researchers may take up their findings. T.S. Eliot provides a concluding exhortation for researchers to visualise how a final destination is a guide for them to design, conduct and present their research.

Recent research supports Winter et al, by showing that it is possible to identify the underlying concerns of examiners through investigating the range of questions that they ask in doctoral vivas (Trafford, 2002). These two sets of findings provide a possible template for doctoral candidates to apply as they prepare their research proposal and then as they undertake that research. Whilst the Winter, et al and Trafford findings emphasise academic and scholarly criteria, they are complemented by the administrative regulations for research degrees in each University which also assist candidates by providing guidelines for research proposals and the submission of theses. Together, these scholarly criteria and administrative guidelines represent points of advice for adoption by doctoral candidates. However, received wisdom and our personal experience shows that prospective candidates frequently encounter difficulty in giving focus to the text of their documents. This might, in turn, suggest that candidates do not always take full advantage of such criteria, guidelines and supervisory advice (Phillips, 1994: 134-135; Graves, 1997: 77).

Thus, a template composed of 'assessment criteria that are used by examiners' may assist candidates in the design of research proposals and the presentation of their doctoral theses. It can also provide a framework in which candidates and their supervisors can discuss research issues 'in which both have a common interest' (Delamont, Parry and Atkinson, 1998). Such a template should not be seen as a 'do-it-yourself' kit, but rather a contribution to 'demystifying the doctoral process' (Burnham, 1994).

For these reasons, this article is presented as an open letter to prospective and current doctoral candidates. *Throughout this article we will refer to how ideas apply to these two categories of readership ~ though specific mention of each category will not be made every time that one is noted.*

Dear Doctoral Candidate

During our respective periods of doctoral study one issue concerned each of us: *'What questions will I be asked at my viva?'* For Vernon this was answered by his supervisor who said: *'I will ensure that you are prepared to answer every question that the examiners may ask you'*. He did. Some years later Vernon gave similar assurances to Shosh. However, by then we had already spent time considering the ultimate purpose of the viva. Our conclusions have a bearing on how candidates perceive the design of their initial research proposal, how they undertake their research and how they structure and then write their thesis. Our evidence shows that if doctoral candidates acknowledge these issues then they should have a professionally rewarding and personally enjoyable viva.

This letter offers you some issues to consider, and questions to discuss with your supervisor as you tackle the first part of your doctoral registration process ~ the design and drafting of your research proposal. However, you may have commenced your research and already had such discussions with your supervisor. In this case, you may decide to use the questions as an audit which can be applied to the text of your thesis. Thus, our letter is written to you in the form of a working document. In whatever way you decide to use the document, we hope that you will discuss it with your supervisor.

Our Research Approach

Between us, we have had the good fortune to attend over 40 doctoral vivas during the past four years, as an examiner, a supervisor or as the independent chair of the event. As a consequence, our fieldwork emerged from research opportunities that are only available to those who attend doctoral vivas in one of the above roles. The research approaches that were available to us were therefore limited to those of participant, observer or participant observer (Sanger, 1996). As a result, the research was ethnographic as it sought to understand and then to explain the realities that a small number of people

experienced within a specific social setting (Hammersley and Atkinson, 1983; Fetterman, 1998; Brewer, 2000).

This paper draws upon the model presented by Trafford and Leshem (2002) in which they portrayed the distribution of questions asked by examiners in one doctoral viva. This model is shown in Figure 1, where the type of questions that were asked by examiners are mapped against two axes. The questions in Quadrant D ~ High in Innovation and Development, and High in Scholarship and Interpretation ~ were used as a template against which to assess the frequency of questions in other vivas. In applying this template, it was accepted that many other questions, in Quadrants A, B, and C of the Trafford and Leshem model, were ignored because those questions were neither at a meta nor a conceptual level, and thus were not critical to the examiners.

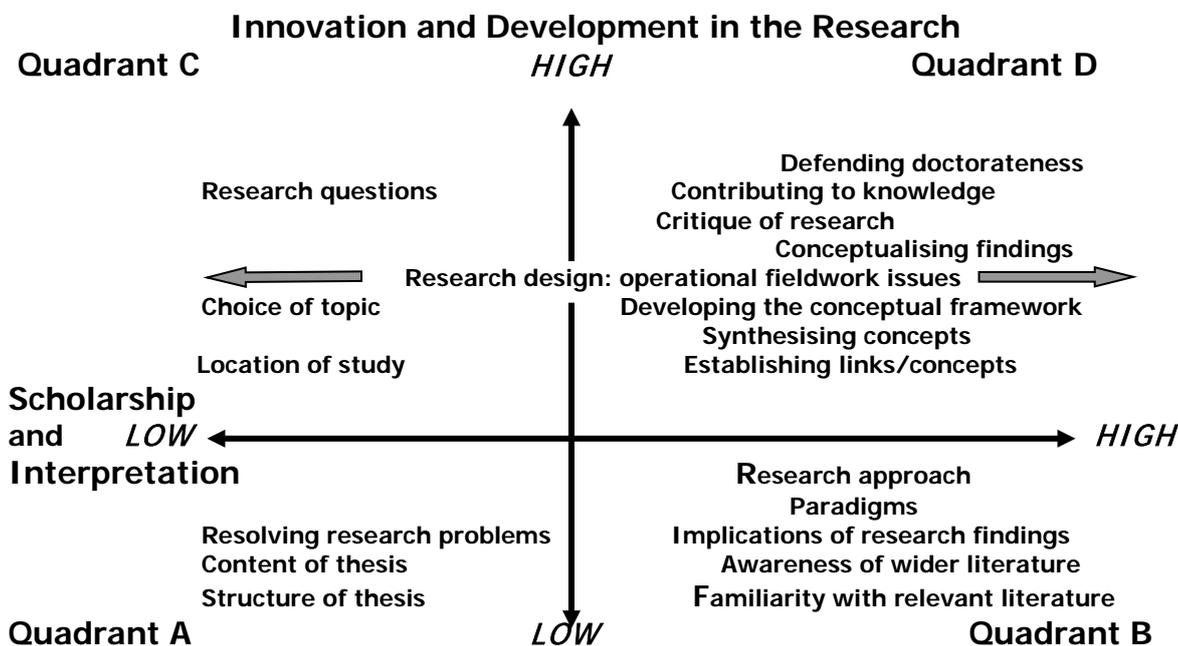


Figure 1 Relative location and significance of questions in the doctoral viva

Table 1 categorises the questions in 25 doctoral vivas, across disciplines (Trafford, 2002), within the four quadrants of the Trafford and Leshem model.

	Discipline	Time Mins	Questions	Q A %	Q B %	Q C %	Q D %	Outcome(s)
A	Education	62	38	3	11	17	69	Pass ~ very minor changes
B	Psychology	54	24	4	16	16	64	Pass
C	Ed Mngmt	31	27	4	12	24	60	Pass ~ very minor changes
D	Education	53	36	9	17	21	53	Pass
E	Education	60	23	7	20	23	50	Pass
F	Education	63	41	NIL	20	30	50	Pass ~ Very minor changes
G	Education	49	27	10	16	26	48	Pass ~ Very minor changes
H	Ed Mngmt	103	41	10	20	25	45	Minor changes
I	Bio-medicine	118	73	10	23	25	42	Pass ~ Minor changes
J	Applied sciences	105	63	8	19	33	40	Pass ~ Minor changes
K	Education	59	21	5	28	28	39	Major changes
L	Education	65	31	6	29	26	39	Minor changes
M	Marketing	70	38	5	25	31	39	Major changes
N	Applied sciences	135	81	9	21	31	39	Pass ~ minor changes
O	Applied sciences	127	85	3	28	32	37	Pass ~ minor changes
P	Computing	124	70	7	25	31	37	Pass ~ minor changes
Q	Business	69	23	4	44	26	26	Major changes ~ resubmit
R	Education	55	31	20	25	32	23	Fail
S	Education	63	28	17	32	29	22	Major changes ~ resubmit

T	Education	25	20	15	30	35	20	Major changes ~ resubmit
U	History	82	24	21	29	33	17	Fail
V	Education	78	44	4	39	41	16	Major changes ~ resubmit
W	Applied sciences	140	186	10	27	48	15	Major changes ~ resubmit
X	Business	50	31	9	33	45	13	Major changes ~ resubmit
Y	Education	101	42	12	42	37	9	Fail

Table 1 Analysis of twenty-five doctoral vivas

The research question for each episode of investigation was: *'What questions do examiners ask in a doctoral viva?'* A choice existed whether to note the asked question, answers to questions or both. It was decided to collect evidence by writing out the full question because:

- Questions would normally contain less words than answers and thus be easier to write down;
- Similarities between the phrasing of questions would be more apparent than between their respective answers when the research topics were dissimilar;
- Questions, rather than answers, represent a profile of issues that examiners consider to be critical to doctorateness;
- Questions constitute an agenda of issues which will, if answered to the satisfaction of the examiners, determine the award of the doctoral degree.

With the agreement of the participants in the viva, a written record was made of the questions that candidates were asked by examiners. Noting these questions was undertaken unobtrusively (Sanger, 1996; Schostak, 2002). This task was easier to complete when fulfilling the supervisor or chair roles since these had no academic contribution into the scholarly discussion of the viva. We accept that these documentary sources were generated through initial interpretation by the researcher of unfolding social interactions (Olsen, 1970; Scott, 1990). In this sense they represent mediation between the observed respondents (examiners) and the researchers as each question was written down.

The lists of questions were interpreted as text-based documentary evidence (Altheide, 1996:16). The respective lists were firstly reviewed to identify whether there were identifiable patterns in which the questions appeared to be clustered. Within those thematic clusters certain phrases and statements appeared consistently as questions. It was apparent that examiners in all vivas clustered their questions into groups of between three and six that addressed a related topic. These questions were 'based upon their initial reading of a thesis' (Trafford, 2002).

The lists were then compared to identify common questions that occurred in different vivas. Although the questions did not always use similar words, nonetheless they sought explanations from candidates on similar aspects of their doctoral thesis. In this way, patterns of questions were identified that possessed a congruence of ideas. However, examiners were not formally interviewed regarding their questioning strategy. Thus, the interpretations that have been placed upon the categorised listings of viva questions have not been verified with those who asked the questions.

The purpose of writing out the questions was simply to create a record of the questions asked by examiners in doctoral vivas, and not to analyse any discipline-based strategy which those examiners may have been following. Thus, the research was inductive. It sought to develop theory that was grounded in evidence and as a consequence it displayed high validity (Fetterman, 1998). Since generalisabilities cannot follow from this type of research, propositions are advanced for others to test as hypotheses (Bryman, 2001).

Evolution of the Research

Last year we wrote about the anatomy of one doctoral viva from the perspectives of the five persons who were present ~ the candidate, two examiners, the chair and the supervisor (Trafford and Leshem, 2002). Our paper showed how two examiners asked their questions and how one candidate presented an acceptable defence of the thesis. Over the past year our findings have been tested through research into the nature and conduct of the doctoral viva (Trafford, 2002). Evidence shows that candidates are

able to influence the outcome of their doctoral studies by starting at the end of their journey to plan how they will start and undertake that journey. Further evidence demonstrates that candidates may influence the discursive process in a doctoral viva through communicative strategies that are predictive and deliberative.

This apparent contradiction between candidates being compliant acceptors of questions from examiners and 'controllers' of the viva process can be explained. You might consider how either of these questions applies to you:

- *What guidelines have you used to draft your research proposal so that prevailing notions of doctorateness are reflected in an explicit manner?*
- *How have you displayed doctorateness in an overt manner within your thesis?*

We would argue that positive answers to either of these questions demonstrate that you have already considered the questions that examiners may ask of your research proposal or at your viva. Congratulations! However, if you have not consciously attended to these considerations then you may either have already done so unconsciously, or you have a high trust in the quality of your research!

Figure 2 displays how a journey may be compared to drafting a research proposal, or approaching and undertaking a doctoral thesis. It also indicates the aspects of conceptualisation sought by any examiner within a research proposal, a doctoral thesis or a doctoral viva.

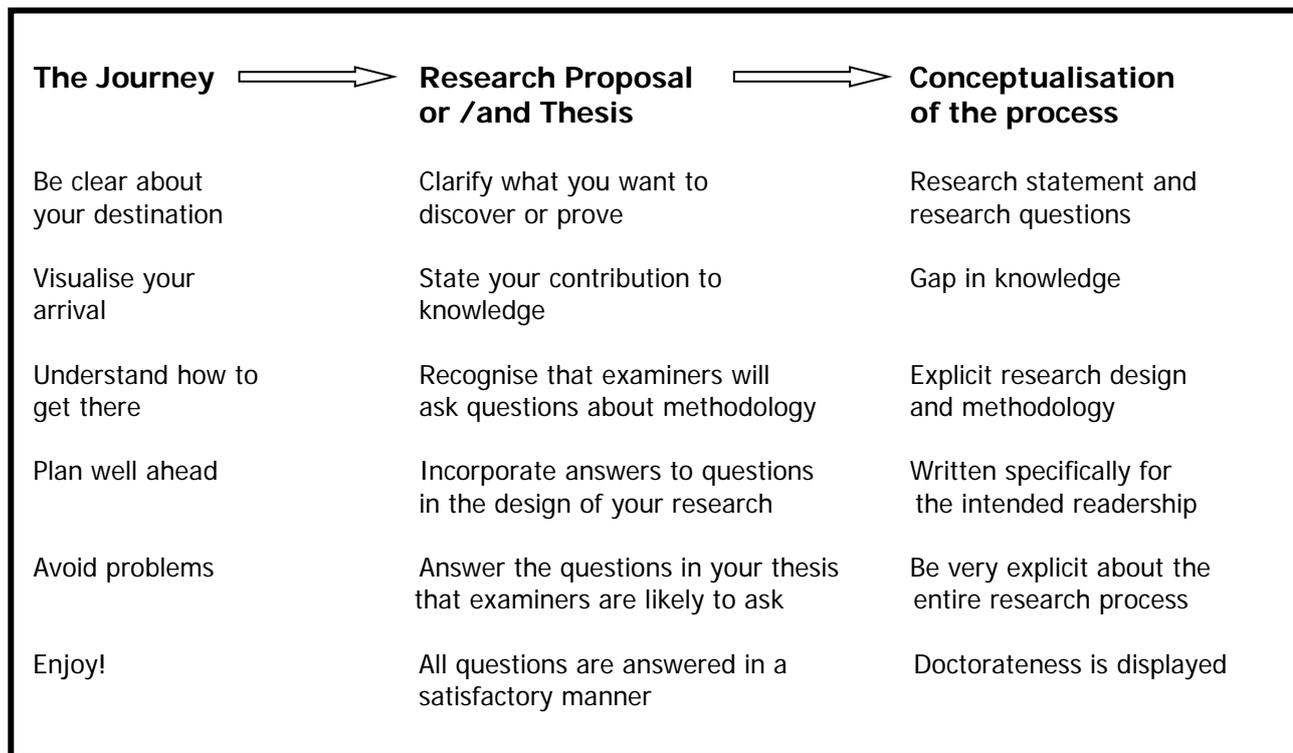


Figure 2 The research journey

The example, in Figure 2, suggests that candidates who anticipate the questions which will be asked of their doctoral thesis will have answered them in their text. However, this is not a guarantee that you will automatically pass your viva at the first attempt. The quality of your thesis has to be such that it displays all those features of doctorateness which examiners expect to see. If those features are explicit, and if you have presented your thesis in accordance with the regulations for the submission and examination of doctoral theses of your University, then you are well prepared to enjoy your doctoral viva.

However, Table 1 shows that those candidates who receive proportionally fewer questions in Quadrant D either have to undertake major changes to their thesis before resubmission, or fail their viva. (See candidates K, M, Q-Y). An analysis of their questions showed that those candidates had not addressed these questions in their thesis and neither could they give satisfactory replies when asked about these issues by the examiners.

Our analysis of findings identified what the examiners expected to see in a thesis that was self evidently 'doctoral' in design, shape, argument, text and conclusions. The expectations of examiners were expressed through the questions which they asked and the manner in which those questions provided a coherent exploration of doctorateness in submitted theses. Thus, our research sought to identify the critical questions which examiners asked in doctoral vivas.

An Approach to a Doctoral Journey

Let's start at the end of *your* doctoral journey and think about what examiners do before they meet you at your viva. Before a doctoral viva is held, University regulations oblige each examiner to read the submitted thesis and to provide an independent report. In their report examiners have to state the extent to which the thesis meets the criteria for doctorateness. If the Candidate has submitted a thesis that satisfies those criteria then the viva is a formality and it confirms the examiner's view of its doctoral worthiness through its defence by the candidate. Research evidence, nationally, shows that examiners seldom alter their initial opinion of a thesis because of what transpired in the subsequent doctoral viva (Jackson and Tinkler, 2000).

It follows that the impression which examiners reach about the merit of a doctoral thesis is initially gained from the textual content and the presentation of the thesis. This places a premium upon candidates recognising and then meeting the needs of their readers ~ the examiners. Thus, four more questions can be posed for you to consider:

- *'Is the text of your thesis sufficiently transparent with a perfectly clear intended meaning?'*
- *'Where will your readers see / recognise the doctoral worthiness of your thesis?'*
- *'How have you presented developing themes and issues so that examiners do not overlook or misunderstand the more complex aspects of your thesis?'*
- *'How will your readers recognise the scholarly base upon which your text has been written?'*

Although these questions are concerned with writing style and issues of communication, they have a direct influence upon the first reading of your thesis by your examiners (Hartley, 1997: 97).

Against that background, we sought those characteristics of a thesis that were critical to displaying doctorateness through our analysis of questions asked by examiners. Our reasoning was that *'if the characteristics were present then they confirmed doctorateness.'* The converse position made them critical since if they were not present then it was unlikely that the thesis would be accepted by examiners as displaying doctorateness. We had concluded that it is not possible for a 'poor' thesis ~ however that is defined ~ to be defended successfully. Our conclusion is based upon logic rather than evidence!

This approach to writing your thesis suggests that when you write your doctoral text: *Please do not forget the expectations of your readers.*

Critical Questions

Our analysis of the questions showed that certain themes appeared regularly across the various disciplines. Each theme was addressed through questions that explored a central issue from different perspectives. Occasionally, examiners would frame the central issue through a direct question to a candidate in order to address the generic underlying aspect of the theme. This textual analysis enabled us to isolate those questions which comprise the clusters ~ or themes ~ of questions, and also to express the generic question in those themes. Since we were seeking trends in the clustering of

questions, it was not possible to allocate relative weightings for individual items. However, all clusters of issues appeared in every viva. Thus, they represent thematic questions that are critical to the defence of the thesis as reflected by the generic question.

The questions may be considered as being predictable although their precise wording varies from viva to viva. Nonetheless, the examiners who asked these questions were seeking specific sets of information from candidates. Thus, we have provided examples of the questions that appeared during the vivas that are shown in Table 1. You should treat the clusters as alternative ways of asking the central question, or as variations that examiners might ask to reach the same point. Following each cluster of questions we have presented a generic question which may be asked by examiners as a direct question in its own right. These generic questions are especially critical because they are conceptual in nature, and thus relate specifically to the essential characteristics of doctorateness.

Cluster 1 Opening questions

Examiners will ask you to explain your reason(s) for selecting the topic for your research. The angle of this initial question will be determined by their reading of your thesis. Their question may expand upon an explanation which you have already provided within the text itself ~ or the question may be asked just to allow YOU to set the choice of your doctoral research in a context.

This generic question could be asked as an icebreaker to start the discussion in the viva, or it could be asked as a serious question to open other topics for discussion.

'Why did you choose this topic for your doctoral study?'

Cluster 2 Conceptualisation

This cluster will contain more than one question to explore the conceptualisation which guided your research approach, explained your understanding of extant literature, guided your research design and also provided a framework in which your data would be collected. These are key questions in any viva.

- *What led you to select these models of?*
- *What are the theoretical components of your framework?*
- *How did you decide upon the variables to include in your conceptual framework?*
- *How did concepts assist you to visualise and explain what you intended to investigate?*
- *How did you use your conceptual framework to design your research and analyse your findings?*

The generic question in this cluster is of a quite direct nature, and it may be asked in a direct way.

'How did you arrive at your conceptual framework?'

Cluster 3 Research Design

Examiners will know what you have written about the design of your research. However, they may still want to hear you explain it to them through asking fairly general questions such as:

- *What other forms of research did you consider?*
- *How would you explain your research approach?*
- *Why did you select this particular design for your research?*
- *What is the link between your conceptual framework and your choice of methodology and how would you defend that methodology?*

- *Can you explain where the data can be found and why your design is the most appropriate way of accessing that data?*

'How did you arrive at your research design?'

Cluster 4 Research Methodology

The examiners will expect you to have distinguished between methodology and methods very clearly in your thesis. Their questions on this issue will range across the following aspects of your research.

- *Please explain your methodology to us.*
- *Why did you present this in the form of a case study?*
- *What choices of research approach did you consider as you planned your research?*
- *Can you tell us about the 'quasi-experimental' research that you used?*
- *I did not watch your video until after reading your thesis. I wish that I had viewed it earlier ~ it was very good. Why did you decide to include a video in your thesis? What was its role?*

The generic question can be as brutally straightforward as:

' How would you justify your choice of methodology?'

Cluster 5 Research Methods

You must also justify your choice of research methods ~ you cannot just assert that you wished to collect your data 'this way'. Examiners will explore this aspect of your thesis in some detail ~ especially if you have not explained how you arrived at the choices that were involved in undertaking the research.

- *How do your methods relate to your conceptual framework?*
- *Why did you choose to use those methods of data collection?*
- *What other methods did you consider and why were they rejected?*
- *How did you handle the data that came from open-ended questions?*
- *Tell us how you managed to achieve a 100% response rate from your respondents ~ who, as adolescents in schools, are not known for complying with such requests!*

The examiners may not necessarily ask you any really searching questions about the detail of your research methods, but rather ask a generic question about just one method:

'Why did you decide to use XYZ as your main instrument(s)?'

Cluster 6 Sampling

It is inevitable that the examiners will ask you how your respondents were selected or how you chose your laboratory samples. Always remember: The examiners are normally just checking that you can explain these choices, and how you arrived at those decisions, rather than seeking especial insight from you upon those technical issues.

- *How did you decide upon your research boundaries?*
- *What was the Universe from which your sample was selected and how did you define it?*
- *What is the relationship between your respondents, the research design and the conceptual framework?*

- *Why did you chose these respondents rather than other respondents ~ how do you justify that choice?*

As in Cluster 5, **IF** the examiners ask you any questions on your fieldwork, then these are likely to be generic, and asked in an open manner. This type of questioning is intended to explore the decisions that you made rather than the detail of specific techniques. However, if you have got it wrong then

'How did you select your respondents/materials/area?'

Cluster 7 Conceptual conclusions

Bear in mind that your doctorate will not be awarded on what you 'find' since this relates to the 'content' aspect of your research. These findings will be essentially descriptive in their level of thinking. Instead, examiners will be concerned to understand how you conceptualised what your evidence shows and how you explained your approach to, and understanding of, the research process. This question links back to Cluster 2 and explores how your conceptual framework enabled you to conceptualise your conclusions through models or theories. Thus, as you design your proposal, or undertake the research for your thesis, always consider 'the conceptual' and the 'research process' as being more significant than 'the factual' aspects of your research. PLEASE!

- *What are your conceptual conclusions?*
- *Were you disappointed with your conclusions?*
- *How do your conclusions relate to your conceptual framework?*
- *How did you distinguish between your factual and conceptual conclusions?*

The generic question will be asked in order that the examiners can hear you argue through the reasoning that moved your thinking from the descriptive to the conceptual level.

'How did you arrive at your conceptual conclusions?'

Cluster 8 Fundamentals

Be clear that implications follow from undertaking inductive or deductive research. Only conclusions from deductive research have high reliability and thus support claims of generalisability. If your research is inductive and displays high validity, then you cannot claim generalisability for your findings. In this case, examiners would expect you to present propositions that account for your conclusions.

- *How did you triangulate your data?*
- *Were you objective or subjective in your role as a researcher?*
- *How did you relate the various stages of your research one to another?*
- *How did you analyse your data, and how did you arrive at meanings from that analysis?*

'How generalisable are your findings ~ and why?'

Cluster 9 Contribution

Why not clarify this aim before even commencing your research? Align your research intentions with a gap in knowledge, or the theories of significant authors. You might also wish to show that your research would extend the work of others, or develop theory in a specific field of knowledge. Accept that this

question MUST be answered in your thesis ~ so why not answer it in your research proposal, and make your intentions clear at the outset, and also in the conclusions, of your thesis?

- *How important are your findings ~ and to whom?*
- *How do your major conclusions link to the work of Rose? (For instance.)*
- *The absence of evidence is not support for what you were investigating, neither is it confirmation of the opposite view. So how do you explain your research outcomes?*

Since the examiners will be judging your thesis against the age-old doctoral criteria of 'making a contribution to knowledge' you should expect to be asked this generic question:

'What is your contribution to knowledge?'

Cluster 10 Being Critical

Examiners expect doctoral candidates to have critiqued the research which they have undertaken. In asking these questions, examiners appear not to be seeking, or to expect, critical comments from candidates. Examiners expect to receive a reflective commentary on the choices that candidates made throughout their research and they are seeking evidence of maturity in your approach to the research process. Questions of this sort are asked towards the end of the viva, and they represent a possible check by the examiners upon answers to earlier questions that have elicited positive endorsements for research approaches, or techniques. So ~ include text in your thesis that deals with this issue, and also prepare to answer a question on the issue as well!

- *How else might you have undertaken your research?*
- *What are the strengths and weaknesses of your research?*
- *What would you do differently if you repeated your research?*

The generic request that examiners make is usually quite straightforward.

'We would like you to critique your thesis for us.'

Cluster 11 Returning to the Beginning

Towards the end of the viva examiners may ask some legitimate questions that are beyond the stated boundaries of your research. These questions are intended to allow you to expand on any issues that may not have been included in your thesis, but which are of interest to the examiners. Some candidates have assembled a mnemonic of issues to help them recall the points to use in such an answer.

- *So why did you really want to undertake doctoral study?*
- *How is gaining your doctorate going to help your career?*
- *What are you going to publish from your thesis?*
(If you have not already thought about this question ~ please do so now!)

The generic question reflects a genuine interest by examiners in your future career and possible use of your doctoral studies.

'What are YOU going to do after you gain your doctorate?'

Cluster 12

And Finally

Doctoral vivas may close with an examiner inviting you to speak about something of your own choosing. This is an opportunity for you to expand on an earlier answer, or to explain an aspect of your thesis which you consider to be particularly significant. Our evidence shows that less than 50% of candidates accept this invitation. Responses tend to be declined due to either emotional exhaustion or a suspicion that the examiners would have already explored the critical aspects of the doctorate and that any further discussions would have little added value. Those candidates who do accept the invitation, tend to address technical matters that concern a specific aspect of fieldwork.

**'Is there anything else that you would like to tell us
about your thesis which you have not had the
opportunity to tell us during the viva?'**

These questions ~ or sets of words that are very similar ~ will be asked of you in *YOUR* doctoral viva. Thus, recognising these issues at the outset of your doctoral studies should ensure that they are addressed in your research proposal and then also in your thesis.

Questions for *you* to address NOW

If you are embarking on the first phase of your doctoral journey, you are likely to be clarifying your research topic. However, at this stage you will not yet be able to provide answers to Clusters 7, 10, and 12 since they relate to a later stage of your work. We hope that addressing the other nine questions will help you to overcome Mason's observation: *'It is well known that researchers who are in the early stages of their work often find it difficult to explain to others briefly but specifically what their research is about'* (Mason, 1996:10). The problem that most researchers experience is being able to capture their ideas in a few carefully chosen words. Enthusiasm, hesitation, excitement, lack of clarity, broad visions or limited understanding are all familiar problems at the start of one's research.

Also at this time researchers may become disillusioned with the need to produce a research proposal. They may well want to *'get on with it'* and not think about apparently obtuse issues of design. Unfortunately, this is a short-sighted view and it is unlikely to produce research that has instantly recognised merit. Newberry reflected on his experience of this situation through these words: *'The richness and significance of the data collected at some of the early stages was not realised until an appropriate theoretical framework was acquired later on. This reinforced the sense that I sometimes had of doing the methodology backwards'* (Newberry, 1995). Whilst we can sympathise with his predicament, our evidence suggests that it is possible to avoid the situation in which he found himself.

If you have commenced your doctoral research, then the questions can act as a template for you to check that answers are incorporated within the text of your thesis, and that there is cohesion within that text. Irrespective of how far you are into your research, we would urge you to consider all of the questions ~ except Cluster 12 ~ to be important. Thus, the other eleven clusters should be a trigger to your thinking and a constant reminder of the academic destination for your scholarly journey. In this way you will be undertaking a self-review of your work that you can discuss with your supervisor(s).

Conclusions

Our evidence shows that examiners ask questions that serve two purposes. Firstly, their questions may build upon the strengths of a thesis by inviting candidates to extend the ideas, models and conceptualisation that appear in the text itself. In this way the examiners are using their questions to engage with the candidate in scholarly discussion (Trafford, Woolliams and Leshem, 2002). Questions in this category will be asked because the examiners are satisfied that the candidate understands the nature of doctoral level research and has demonstrated that in their thesis. Secondly, the examiners may wish to satisfy themselves that the candidate understands and appreciates the wider significance of their research. Some theses, however, are submitted 'before they are really ready'. In this

situation, examiners would explore 'the assumed deficiencies' with the candidate through a series of searching questions.

Our evidence shows that a significant proportion of questions in doctoral vivas can be predicted. This finding has encouraged us to explore how prospective researchers could use that knowledge as they embark on their own research journey. It is apparent that these predictable questions represent a template against which to write and defend a doctoral thesis. It follows that the research proposal, on which that thesis was based, can use similar planning criteria. Thus, the predictable questions also offer a template against which you can draft your research proposal, or undertake an audit of your thesis. Following from this finding we offer the following propositions, as a basis for a theory, that others can test:

- 1 Doctoral vivas contain generic questions that are predictable.
- 2 The predictable questions that examiners ask in the doctoral viva may already have been addressed in the thesis.
- 3 Candidates who provide satisfactory responses to the predictable questions confirm the initial opinion of examiners towards doctoral level of the thesis.
- 4 Candidates who do not address and provide satisfactory answers to the predictable questions in their thesis, will not be able to impress the examiners who gain their initial impression of the doctoral worthiness by their independent reading of that thesis.

You will find that providing answers to these predictable questions will be a difficult task. Mason acknowledges that researchers encounter many such difficulties as they start to plan the research which they wish to undertake (Mason, 1996). Our research shows that if these difficulties are not resolved, then they will appear as serious omissions, or major faults, within the submitted thesis. Although the task may be difficult, it is a necessary part of the research process and one that can remove later problems for you. Thus, we would encourage you to seek answers to these questions in the knowledge that you are investing your intellectual capital in the doctoral quality of your thesis.

It is only by being clear about your research intentions that you will then be able to plan your research journey with confidence. When you have finally sorted the 'research puzzle' which is *'What do you want to explain?'* (Mason, 1996:14), you will have focussed on a research question that will become the central driving force in your research. Then, when your research is complete, you will also have provided your readers ~ the examiners ~ with additional answers to a series of questions that are quite critical to how you display of doctorateness in your doctoral thesis.

Why not formulate sophisticated and considered answers using these questions as stepping stones towards your doctorate? Why not formulate these answers before you start to think about the architecture of your thesis, or commence your reading or even writing? In doing that you would have already started to prepare for your doctoral viva. Thus, you will have started at the right place ~ the end! Well done.

We wish you well in the quest for your doctorate and we hope that these predictable questions will assist you on your intellectual journey.

With kind regards

Vernon and Shosh

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