

Effective Researcher: Effective Progress

Programme leader manual

Vitae resources: developing the
skills and careers of researchers

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c/o CRAC
2nd Floor, Sheraton House
Castle Park
Cambridge
CB3 0AX

Overview of the programme

Overview and aims

This one-day programme offers participants in the second year of their doctorate, or part time equivalent, a chance to focus on the detailed critical success factors and management skills required to successfully complete their doctorate. The course addresses the requirements of a doctorate, including the hypothesis, the thesis structure, the assessment criteria and to action plan accordingly.

The learning outcomes of the course are to enable researchers to:

- clarify where participants are within their doctoral process, the progress they have made so far and how this relates to the overall project
- identify some critical success factors for the second year of a doctorate
- define and express clearly and cogently their research hypothesis (the thesis in their thesis) and some research questions
- focus on what their thesis should look like (structure), including considering the assessment criteria
- have the tools and techniques to strategically manage the rest of their doctorate
- develop their individual plan for the coming year, and agree a review procedure for it

Type of resource

Programme

Recommended running time

1 day

Audience

This material has been written for postgraduate researchers (PGRs)

Background

Effective Researcher: Effective Progress was originally developed as a second induction day for doctoral researchers beginning the second year (or full-time equivalent FTE) of their full-time doctorate. The programme can comfortably sit alongside provision within the 'Effective Researcher' suite of training programmes for postgraduate researchers. It is also intended to be flexible enough to slot into any existing programme of provision, so long as specific content does not overlap.

The programme itself has been successfully run at a number of UK HEIs. It has been developed to apply to a range of doctoral contexts: across all disciplines; full and part-time, practice-based and professional doctorates. It is designed to run with up to 24 participants.

Why should participants come on this course? What's in it for them?

Participants should be about to begin, or be early in, the second year full-time equivalent (FTE) of their doctorate. This may well mean they will have relatively recently been through an upgrade or transfer process, or/and a first year review. They will probably have attended some courses for generic skills and research specific skills. They will probably have read a great deal, tuned in to their field, started to define the focus of their study and begun core research, as well as having established a relationship with their supervisor (and ideally any other supervisors/advisors/mentors, etc).

This course has been designed to help them navigate this potentially extremely challenging middle part of their doctorate. It is an opportunity to review what they have done to date, and explore how that relates to what they need to achieve overall, as well as looking ahead to what needs to be done in the short- to medium-term future.

Specifically, the course offers participants a chance to focus on relatively detailed critical success factors and management of their own research process; to address close details of the requirements of a doctorate – the hypothesis, the thesis structure, the assessment criteria and to action plan accordingly.

The course is best conducted in a multi-disciplinary context, for considerable discussion to take place, offering a range of perspectives and allowing participants to explore multiple ways of approaching their own work.

Positioning

- Participants will ideally be about to start, or be (very) early in their second year of full-time (or part-time equivalent) doctoral research. For a 1+3 doctoral programme, this would likely be the 2nd of the '3' years.
- There is a subjective judgement about relating this to, for example, institutional milestones like upgrades/transfer vivas and progress meetings.

The programme

This is a one-day course covering five phases:

1. Reflection on progress so far, and to come
2. Critical success factors for this phase of the doctorate
3. A look at the requirements for two theses: defining the research hypothesis and structuring the thesis (including considering the assessment criteria)
4. Managing the doctoral process
5. Action planning for the year ahead

Room layout and resources

This course is designed to be resources-light. Optimum room layout and equipment are as follows:

- Ideally, moveable tables and chairs, initially set out in cabaret style, with roughly 4-6 participants per table, and roughly four tables
- A data projector and laptop if slides are to be used, or a flip chart/whiteboard for the few brief instructions that are to be given
- Beyond the four handouts included at the end of this manual, there is little that is required. The only key thing is blank postcards. Ideally, these are sheets of coloured A4 card, cut into four to make approximate A6 size postcards. The varying colours provide an additional means to mix groups during the day, if that is desired.
- Optionally: The 'Challenging Assumptions' activity from RSVP Design (<http://rsvpdesign.co.uk/>) can be used as a post-lunch energiser. It also leads nicely into the 'Two Theses: Fitting the Pieces Together' session. There should be one puzzle to approx 4-6 participants.

Learning outcomes

These are the learning outcome areas as mapped on to the Researcher Development Framework (RDF).¹ For conditions of use for the RDF please refer to www.vitae.ac.uk/rdfconditionsofuse.

The RDF is a professional development framework for planning, promoting and supporting the personal, professional and career development of researchers in higher education. It articulates the knowledge, behaviours and attributes of successful researchers and encourages them to realise their potential.

A primary outcome is defined as an outcome that is likely to be achieved by all participants irrespective of how the resource is presented. A secondary outcome is that which might be achieved but to a lesser extent than a primary outcome and will vary from participant to participant depending on how the training activity is delivered and what focus is presented.

Domain A: Knowledge and intellectual abilities			Domain B: Personal effectiveness		
A1 Knowledge base	P	S	B1 Personal qualities	P	S
1. Subject to knowledge			1. Enthusiasm		
2. Research methods – theoretical knowledge			2. Perseverance		✓
3. Research methods – practical application			3. Integrity		
4. Information seeking			4. Self-confidence	✓	
5. Information literacy and management			5. Self-reflection	✓	
6. Languages			6. Responsibility		
7. Academic literacy and numeracy			B2 Self-management		
A2 Cognitive abilities			1. Preparation and prioritisation	✓	
1. Analysing			2. Commitment to research	✓	
2. Synthesising			3. Time management		
3. Critical thinking			4. Responsiveness to change		
4. Evaluating			5. Work-life balance		
5. Problem solving		✓	B3 Professional and career development		
A3 Creativity			1. Career management		
1. Inquiring mind			2. Continuing professional development		
2. Intellectual insight			3. Responsiveness to opportunities		
3. Innovation			4. Networking		
4. Argument construction		✓	5. Reputation and esteem		
5. Intellectual risk					

Domain C: Research governance and organisation			Domain D: Engagement, influence and impact		
C1 Professional conduct	P	S	D1 Working with others	P	S
1. Health and safety			1. Collegiality		
2. Ethics, principles and sustainability			2. Team working		
3. Legal requirements			3. People management		
4. IPR and copyright			4. Supervision		
5. Respect and confidentiality			5. Mentoring		
6. Attribution and co-authorship			6. Influence and leadership		
7. Appropriate practice			7. Collaboration		
C2 Research management			8. Equality and diversity		
1. Research strategy			D2 Communication and dissemination		
2. Project planning and delivery		✓	1. Communication methods		
3. Risk management			2. Communication media		
C3 Finance, funding and resources			3. Publication		
1. Income and funding generation			D3 Engagement and impact		
2. Financial management			1. Teaching		
3. Infrastructure and resources			2. Public engagement		
			3. Enterprise		
			4. Policy		
			5. Society and culture		
			6. Global citizenship		

Primary (P) and secondary (S) outcomes highlighted (✓)

¹ www.vitae.ac.uk/rdf

Introduction for the programme leader

This course has been designed to be run by an experienced facilitator, with an academic/research background.

Your role

Your role as programme leader is to help participants:

- make sense of the activities, while clearly recognising that you do not necessarily have the 'right' answers
- think about the activities in a structured way
- relate what they are doing on the programme to their personal circumstances.

Responsibilities

In advance of the programme as programme leader you should:

- familiarise yourself with the programme
- ensure that you are aware of the programme activities and the learning outcomes
- have a discussion with the institution that is running the programme to establish how it fits with their overall programme of provision
- liaise with the institution regarding the suitability of the venue and participant profile
- agree with the programme organiser the resource requirements for the programme (audio visuals, catering and special/extra materials)
- liaise with the programme organiser on a regular basis to confirm participant bookings.

During the programme you are responsible for:

- supporting the development of participants
- introducing and debriefing activities appropriately, and providing the learning context for the participants
- setting up and clearing away activities.

After the programme you are responsible for:

- identifying activities that worked and areas that could be improved within the programme
- having a discussion with the institution on the outcomes of the programme and considering any actions that will need to be taken to support its future delivery.

Experiential learning can occasionally bring certain issues to the fore for some individuals. However, please remember you are not on the programme to act as a therapist. If participants show any signs that they have any serious problems and require additional support, then they need to seek professional help (their academic department might be a first point of contact).

What this manual contains

This is your 'master pack' which contains all the activity summaries and notes that you need to lead the programme.

The materials are written in an informal style because the culture of the course is relaxed – you will be encouraged to dress casually and to create a relaxed and fun environment for your team and the participants.

How the manual is structured

This manual should serve as a guide rather than a definitive set of actions. Each activity is structured as follows:

- Title: includes overall timing for the session.
- Purpose: defines the key aims and objectives of the session.
- Process: provides an overview of activities and any other relevant information.
- Structure: contains a breakdown of timings.
- Resources: lists all the resources you require to complete the session successfully.
- Detail: contains all the relevant guidance, supporting notes, discussion points and background information that you require to facilitate the session.

Programme timetable

09.30	Session 1: Introduction to the day
09.45	Session 2: Climbing the doctoral mountain (Reflections on the previous 12 months or so)
10.30	Session 3: The view from here: Who will finish the climb and who might fall? (Critical success factors for the second year)
11.15	Break
11.30	Session 4: Two theses: What is your thesis trying to say? (Hypothesis and research questions)
12.30	Lunch
13.30	Session 5: Two theses: Fitting the pieces together (How to construct your thesis and meet the assessment criteria*)
14.30	Break
14.45	Session 6: Managing your doctoral process
15.45	Session 7: Action planning
16.15	Session 8: Wrap-up and review

* Optionally, this session can be extended by 20-30 minutes, to include the 'Challenging Assumptions' activity, with the rest of the day's timings adjusted accordingly.

Session 1 – Introduction to the day (15 minutes)

Purpose

To set the agenda for the day and to establish the learning environment.

Process

Plenary presentation led by the programme leader, but including a degree of input from the participants.

Structure

Introduce programme leader, context of the course, working methods, health and safety, etc.	5 mins
Alert participants to the 'second year' aspect of the course, in terms of being FTE, and also for being in the 'middle' phase	5 mins
Introduce the learning objectives for the course, and the plan for the day	5 mins

Resources

Slides: 1 - 2

For the programme leader:

- whiteboard or flip chart or data projector

For participants:

- course programme, including learning outcomes [Handout 1]

Detail

After the first phase of introductions, it is important to contextualise the 'second year' aspect of the course. This will include:

- Signalling that this is full time equivalent (FTE). Hence, a good opportunity to check if any of the participants are studying part-time, and acknowledging this
- Clarifying that the broad thrust of the definition is related to the three phases of a typical doctoral process:
 - Beginning: often characterised by feelings such as euphoria, fear, excitement, uncertainty, freedom, disorientation (lack of a study structure), unclear or unrealistic expectations as to what a doctorate is and entails, and 'Academic Fraud Syndrome' ('How did I get here? And get away with this? When will I be found out..?')
 - End: The end is in sight, had enough, writing reports, writing-up, disillusioned, churning out results, it's all coming together, looking to the next step (job searching), motoring, etc.
 - Today's focus is the bit in between these two. This middle can include elements of: can't see the wood for the trees; need or desire to be (more) independent; too far in to stop, too far from the finish to see the light at the end of the tunnel; reality is sinking in; academic-teenager; time to push on and make 'real' progress; 'middle-of-anything blues'; impatience; etc.

Today's session is about dealing with all of those elements under the middle phase.

Session 2 – Climbing the doctoral mountain

(45 minutes)

Purpose

To engage participants in reflecting on their own progress in their doctorates, and to contextualise this into the larger picture of what is required, how far they need to go, and aspects of the process they will need to consider.

Process

After a brief plenary introduction, participants work individually for a few minutes, before then discussing in pairs/smaller groups, with some interventions or prompts from the programme leader, before the discussion is wrapped up in plenary.

Structure

Brief plenary introduction to the session	5 mins
Participants draw their mountains on their postcards	5-10 mins
Participants share their drawings, discuss them and the issues arising	10-15 mins
Plenary discussion of some of the issues arising	15-20 mins

Resources

Slides: 3 - 4

For the programme leader:

- whiteboard or flip chart or data projector
- Roam (2009) 'The Back of the Napkin' to support the process of using drawing

For participants:

- blank postcards (ideally cut-up card of varying colours)

You might want to pre-distribute the postcards, with a good mix of colours at each table. In this way you can use the postcards to re-group participants (same colour together) later in the day to vary who they are working with.

Detail

Brief plenary introduction to the session 5 mins

Starting with the Zig Ziglar quotation, use the introduction to explain that the session should help to quantify progress and achievements within the doctorate, and attempt to dispel some of the easy misapprehensions ('I've achieved nothing', 'When does the real research start?', 'The first year was lots of reading and no progress'), and also to contextualise some of the other factors in the process.

NB: The Everest picture and the quotation are potentially quite harsh or negative. They will be counter-balanced with the final slide at the end of the day.

Participants draw their mountains on their postcards 5-10 mins

The technique of using drawings is designed to give participants a freer mechanism for communication, to talk about something that might not be so easy to discuss or quantify. It also sets the tone that today is about stepping out of normal working patterns and practices (Roam, 2009).

Explain the task to participants.

The task is to draw their doctoral process, charting how far they've come, and how far they have to go, as a mountain, or mountains, or part of a mountain, or a mountain range... However they want to interpret that metaphor encourage them to add the following details:

- Obstacles overcome so far
- Obstacles or terrain that's ahead of them
- Where is the finish (At the top? Down the other side? What does 'finish' mean in this context?)
- Who else is on or near their mountain? Specifically, where is their supervisor? Where would they like them to be? (For example, your supervisor could be in a helicopter to provide the overview of your path, without being able to micro-manage, with a walkie-talkie, so that you could check in easily with her.) But don't neglect other people, including other researchers. Is there a race, or the (false?) perception of one?

Allow participants to take what time they need to draw their mountains. Many will struggle with either thinking visually, and/or expressing aspects of their doctoral process; prompt if necessary.

NB: The next session is significantly more concrete to counterbalance this highly reflective and metaphor-laden session.

Participants share their drawings, discuss them and the issues arising

10-15 mins

Encourage participants to share and discuss with someone else at their table once they are ready. There is no need for everyone to begin this at the same time, so it can gradually cascade as more people finish. Conversations can be paired or in larger groups at the tables. The purpose is for them to share and compare experiences, and to reflect a little on how realistic they have been. This is a good time for the programme leader to circulate and to prompt discussions with questions as appropriate, especially those relating to the bullet points above.

Plenary discussion of some of the issues arising

15-20 mins

As the conversations begin to die-down, or to diverge onto other matters, this is a good time to bring the conversation together for a plenary discussion. Specifically, this should now address each of the bullet points above, ideally drawing on specific (named if appropriate) examples from the drawings and conversations.

One common issue that often emerges is the amount of ground covered in the first year. Analogies such as establishing base-camp can really help here to illustrate the importance of the sort of groundwork done. There can also be interesting conversations about relative gradients: is the first year more uphill than the second year?

Other useful metaphors include:

- Tress: can't see the wood for... blocking the view ahead; uncertainty as to the path ahead
- Overhangs, fissures, etc: obstacles that need to be circumnavigated or crossed
- Scree: places where slip-ups can be likely/costly
- Is year two getting to the top, with year three getting down the other side, and the finish leaving the mountain? Or is the end of the doctorate to be celebrated at the top of the mountain? (But what comes next..?)
- How does your doctoral mountain fit in to your (career) mountain range? Is it in fact the highest mountain you've ever climbed? Will ever climb?

Session 3 – The view from here

(45 minutes)

Purpose

To focus on some of the specific aspects of the doctoral process that participants can address, drawn from the experience of supervisors, as well as second and third year doctoral candidates.

Process

This is a front-led, plenary discussion.

Structure

Front-led plenary discussion

45 mins

Resources

Slides: 5 - 7

For the programme leader:

- whiteboard or flip chart or data projector

For participants:

- Note pads and pens

Material that might be of use:

- Details of training and support provision within the institution, specifically for help with academic writing and referencing software

Detail

There are two detailed slides covering critical success factors (CSFs) suggested by supervisors and second and third year doctoral researchers respectively. They have been collated from the responses to a simple question: 'What do you regard as the critical success factors for second year FTE doctoral researchers?'. Respondents have been drawn from a range of disciplines and institutions. The aim is to provide a list of potential provokers, rather than a 'to do' list for any one individual. Indeed, some could appear to be contradictory, or at least inconsistent. This is intentional, since you can expect different participants to respond to different items on the list. The session should be long enough to accommodate responses/reactions/questions and to allow some discussion, and further pointers.

Each of the CSFs is listed below, with some thoughts as to what might be said around them:

Practical:

- **Read in an organised way (e.g. goal of 1-2 articles per week)**

The key point here is not to suggest a quantity that might be appropriate for everyone, but rather to see the importance of maintaining a reading habit (regular, frequent, etc.), so as to keep up-to-date, to maintain a current literature review and a wider awareness of the discipline(s). Although this may have greater weight in some fields than others, it matters in all fields.

- **Start writing as early as possible**

The traditional model of three years of research followed by an intense period of writing-up can be unwise for most people. A better habit might be writing earlier, especially for

inexperienced writers, and non-native English speakers. The discipline of writing may well also inform the research process:

“It’s in the writing that many ideas are formed.” (Watson, 2004)

Tip: Develop a writing habit, e.g. 100-words for your thesis every day; and ‘drop’ (i.e. don’t try to edit, structure and link together) these into appropriate files, e.g. ‘Chapter 3’, or ‘Methodology’.

It is worth knowing what provision there is available within the institution to help with this.

Process:

- **Define your own standards for your work/your research**

This relates to the assessment criteria and the need to be able to be self-critical to the same level that you are of other researchers’ work. The process should already have begun; whenever you read any scholarship, critically evaluate and judge it. Practise this, e.g. occasionally, when you start to read something that turns out not to be as relevant as you expected, keep reading but to focus on the structure, style and level of argumentation, without being distracted by the content. Frequently apply this process and these standards to your own writing.

- **Defensibility starts in the 2nd year: be clear about defending each sentence in what you write**

This is the core assessment criteria. Not right; not Nobel prize-winning; but defensible to the standards of your discipline. Practise this often and use this as a reason to seek criticism whenever you can (supervisions, departmental seminars, giving people your work to read, etc.).

Tip: Develop a rigour in your writing, e.g. by writing one defensible sentence whenever you have any input into your research about how this relates to your research. Inputs might be: read something, run an experiment, gather some data, hear someone speak, interview a subject, or..?

- **Is lack of time the issue or is it lack of motivation?**

This should be your first question when time seems to be short. Focus on the tasks that are causing this: Are there boring/tedious/scary/difficult tasks? Are you motivated to do them? Can you change this, e.g. by breaking them down, mixing them with more motivating things, linking rewards to them, etc?

Confidence:

- **Have ambition to give you focus and purpose**

A doctorate is a major, professional activity. It requires an original piece of scholarship: you need ambition for this.

- **Be confident in your work and in your competence as a researcher**

How did you get here? What’s your experience? Are you funded? These questions can help reassure you as to your competence. As can being objectively self-critical (see above). This is very different to being subjectively critical: you would never accept that as appropriate in judging another researcher’s work, so...

- **Be clear that you will finish, you will graduate**

This is about having an end focus. Being able to picture it, and know what it looks like. (Read a completed thesis; talk to people who have finished; recall your own ‘picture’ of this on your postcards...)

Process:

- **Stay focussed! Don't prevaricate – just do it!**

This comment was from a third year doctoral candidate who had been through a long trough in her second year caused by a classic loss of focus. As she expressed it, she was so clearly talking to herself as much as anyone else, which only adds to the power of these words. Only you can make you do your doctorate.

- **Keep perspective. Work to live, don't live to work!**

Again, a core aspect of the second year. It is about maintaining the balance to help with motivation, focus, drive and direction, and about keeping external touchstones close to hand: friends, family, hobbies, pets! It is also about surviving since in the third year this balance may well need to shift more to work, so a healthy second year is critical to long-term survival/sanity/success.

- **It's a rollercoaster – recognise the ups and downs (good and bad days)**

There are inevitably both good and bad days. Either one is dangerous in their own way: over-confidence, over-pessimism; rushing research in the excitement, blocking good ideas in the frustration; and so on. Balance is the key here, which can come from awareness and groundedness. It can also be useful to channel both the highs (energy for the bad days) and the lows (challenges for motivation to push forwards, or look for alternative solutions).

- **Be patient. Don't panic. Establish and maintain a good relationship with your supervisors (and manage them)**

A healthy reminder about the importance of supervision and the balance of responsibility, since you may well need to take the lead. Good relationships need to be maintained frequently. (Interesting potential discussion around what is 'good' in this context. Refer back to where supervisors were drawn on their mountains.)

- **Don't relax. Try harder than before. Start writing. Innovate.**

Similar again. The variety of these is retained because they come directly from people who've recently entered their third year, hence they offer quite a powerful 'direct' voice.

- **Be honest with yourself, and work on what you have neglected.**

This can be so important. It is the issue of not neglecting small potential problems, which may well become much bigger problems if left to fester. It can be seen as closely related to starting to write now, because the process of writing, especially to a defensible level, will expose gaps and weaknesses while they can still be addressed, rather than finding them in the writing-up stage, when it could be too late...

There is also a serious honesty issue in terms of the positives: it is all too easy to be negative. Perhaps the classic is 'I've achieved nothing today', which can be severely demoralising for the next day. Achieving nothing is actually quite challenging; having achieved 'not as much as I wanted', or 'not the outcome I hoped for' are quite different. Plus, if you have developed a writing habit, e.g. of 100-words a day, then this should never be true of any day...

Practical:

- **Summarise the progress you have made each day**

This very much relates to the previous point. It is about the motivational benefit, as much as the record keeping. Plus, there can be useful insights for effectively planning time.

- **Keep all papers/data and everything else well organised**
'A doctorate is 10% inspiration, and 90% filing!' Einstein undoubtedly didn't say that, but there's some truth in it. A little organisation up-front can save weeks of reference hunting towards the end when time is tightest, and stress is highest.
- **Maintain a log**
More than a lab book (although the idea can be seen as closely related). Something like an aide memoire about the research process: Why a particular choice was made, or a reference followed/discarded; the thinking process that led to an idea, an innovation, or a discarded thought. This can be useful if ideas get lost, or dead-ends are hit, being able to retrace the thought-process steps can help. It can also be a defence, in the unlikely event that attribution is challenged.
- **Start writing now. Practise writing and get feedback on it**
If there is one thing that is worth saying more than once, it is this...
- **Read continuously; maintain a current literature review (use Endnote!)**
... and perhaps this! But the Endnote reference (or equivalent) is worth highlighting. It can be useful to know what training is provided within the institution, and what packages are available for researchers to use. Get people to share their experiences and encourage them to advise each other (there's a break coming up...).
- **Use the people around you including other academics**
As a final comment, really get them to think about who can help, and how. Challenge them about this. If there's time, brainstorm the list of who can help. Beyond the obvious, push them to: lab technicians, archivists, subject librarians; support and development staff (e.g. academic writing); big names in their field; academics outside their discipline; practitioners; post-docs; other doctoral researchers (like the other people in the room now...)

This topic will be returned to in the 'Managing Your Doctoral Process' session.

Session 4 – Two theses: What is your thesis trying to say?

(60 minutes)

Purpose

To understand a core element of what doing a doctorate is, i.e. defending an hypothesis; to understand what a doctoral hypothesis might be, including awareness of pitfalls; and to begin defining, or to refine, their own doctoral hypothesis, as a means of helping focus future research activities.

Process

This session begins with a front-led plenary presentation and then breaks down into individual work, paired/small-group sharing and individual reflection. There is scope for individual, group and plenary intervention from the programme leader.

Structure

Front-led, plenary: Explain the idea of the two theses	5 mins
Front-led, plenary: Explain what 'hypothesis' means in the context of the doctorate; show an example, and differentiate from research questions	10 mins
Individual writing of own hypothesis, and research questions	35 mins
These are then shared in pairs, or in slightly larger groups, at the tables. The sharing should involve peer-suggested refinement.	
Individual reflection/re-writing of hypotheses and research questions.	10 mins

Resources

Slides: 8 - 11

For the programme leader:

- whiteboard or flip chart or data projector

For participants:

- The reverse side of the postcards they used in 'Climbing the doctoral mountain'

Detail

This session can require quite a lot of programme leader intervention. The degree to which this can occur will be dependent on the number of participants. However, effective use of plenary interventions can complement this.

Front-led, plenary: Explain the idea of the two theses **5 mins**

Slide 8: The first message is to differentiate the ideas of:

- thesis = the written document and
- thesis = the hypothesis that is being defended.

From this, the core message is to focus on the centrality of the thesis to what a doctorate is, and then to clarify this relative to research questions, and subsidiary questions about it. The subsidiary questions need not be dwelt on for too long, but can be usefully returned to in the final individual reflection time.

In this session, research questions are defined not as that to be answered (which is really a converse of a hypothesis), but are necessary underlying questions that need to be answered to be able to defend the thesis, but which are not themselves hypotheses. This distinction is critical to avoiding the risks of nested or double hypotheses (see below).

Front-led, plenary: Explain what ‘hypothesis’ means

10 mins

Slides 9-10: It is worth spending some time really focusing on what a thesis is, i.e. it is a single hypothesis, which is stated positively. After setting out the general, an illustrative example then reinforces the point. Slide 10 contains one example, but it is suggested that presenters might want to use their own, or one they are very familiar with.

This example contains two necessary research questions, the second of which could easily have been a second hypothesis. In practice, the two hypotheses were nested for quite a while: “International law cannot address matters of statehood, as evidenced by its dealing with state failure.” However, this was far too great a scope for a single doctorate, hence the given thesis was that used, and the second research question became a background subtext of the analysis (necessary), without ever being addressed head-on or conclusively (impossible in the space/time/scope).

Having dealt with an example, and ensured that the concept of thesis is clear, it is also worth noting that not everyone will need or find use for research questions. This is entirely as it should be.

Individual writing of own hypothesis, and research questions

35 mins

Once the concepts are clear, it is worth setting the participants off on writing their own theses. Experience of delivering this course is that the vast majority of participants will not have actually done this before. And even those who feel they have will often end up writing something that remains a question rather than an hypothesis. For anyone who is comfortable with what they have, there is still value in exploring it with other people, and also helping others to refine theirs.

Throughout, the aim is less about producing a final thesis. In fact, anything even resembling it will of course be a work in progress, subject to future refinement as the research proceeds. Rather, the aim is to begin the focusing process, to aid more focused research in the remainder of the second year, and to develop familiarity with refining hypotheses.

Typical issues

There are a number of likely issues that may arise, listed below. You may want to intervene with individuals on these and either then share them with the pair/group, or in plenary, as illustrations of the process to be followed. The aim is that participants help each other to define and refine their work:

- **My supervisor defines my work:** This is most common in physical sciences and engineering. Whilst the general position is often exactly as stated, the fact remains that the doctorate needs to be a piece of research defended by the individual doctoral candidate. As such, the precise focus of the hypothesis needs to be defined by them, in such a way that they can defend it. It may well also need to meet the wider research needs of the project, but that is a separate point. Either there are a range of hypotheses that could meet the wider project needs; and/or the doctoral hypothesis may be studied alongside contributions to the wider project (these might constitute research questions). The fundamental point is the need for the candidate to be clear as to what their thesis is as they proceed with their research, as they write-up their thesis, and as they enter their viva.
- **‘I don’t know what I’ll find’:** In one sense, this is the classic objection to this exercise. However, it is also essentially a straw man. Research is always designed to answer a question, which pre-supposes a hypothesis of some description. Of course we won’t know whether the research will yield a positive or a negative result, but in either case the

hypothesis will be refined as a result. (Subsidiary objection: Isn't this a dishonest, re-writing of the process? Not really, it is normal research methodology.)

A second strand of this is where there is very much work in progress to reveal aspects of the issue. In such cases, it can be useful to demonstrate a 'place holder' element within a hypothesis, rather than using the uncertainty to prevent any definition at all. For example, with placeholders in [square brackets]: 'Substance A causes a significant effect [not sure of the details yet, but it involves decay to some degree] on the cells being studied, under conditions [A], [B] and [C].' Even in this form, a clear hypothesis can be seen, and it contains very specific scope for refinement as the research progresses. With this as a background, any future study can be classified by which of the four placeholders it helps to clarify. If none of them (and not supporting the wider thesis), then there is a serious question as to the value of the study, which is precisely the focusing function at work.

- **The Anthropology Defence:** This is actually a more extreme version of the previous one, and raises a very genuine methodological issue, most obviously present in anthropology, but not restricted to it. The issue is the need to investigate without pre-conceived ideas as to what will be found. The responses can include:
 - There is already a presumption about what will be found in the very fact of defining what research will be undertaken, so some of this can be written in
 - There are accepted forms hypotheses in this context might take, allowing 'empty' structures to be offered (a more extreme version of placeholders)
 - As the research progresses, there is considerable scope to begin to refine these, and this should be encouraged to maintain focus. (If you don't know what you're looking for, how will you know what is significant in terms of positive or negative impact on it? And what more needs to be studied?)
- **Disciplinary uncertainty:** what is a part of the thesis and what is a research question? (See comment below) Here, the advice very often needs to include further place-holder elements or branched alternative versions of the hypothesis. As ever, the aim is to at least phrase the questions in terms of alternative theses, which should then provide a very fruitful basis for supervisory discussions.

You may have some reservations about intervening without sufficient disciplinary knowledge. This shouldn't be a barrier. There is a clear distinction between helping someone form a clear and coherent hypothesis and in being able to define an appropriate one for a discipline. The separation takes the form of the advice, i.e. giving participants the chance to have very specific questions for their supervisor or other academic advisors. Experience of delivering this course suggests that participants have not been through this sort of experience at all, and doing so can really aid their focus when talking with their supervisor. It is frequently ranked as the most valuable session on the course. Hence, it is worth taking this plunge.

The final part of the session is a good opportunity for the participants to write-up a final version of their thesis-in-progress; the reverse side of their 'doctoral mountain' postcard makes for a neat place to keep this.

Session 5 – Two theses: fitting the pieces together

How to construct your thesis and meet the assessment criteria

(60 minutes or 90 minutes*)

Purpose

To understand the sorts of shapes and structures a doctoral thesis can take, and how these relate to meeting the assessment criteria. These assessment criteria also need to be analysed in some depth to be fully appreciated by the participants. A further purpose is to regard thesis structure as a potential tool to be used, rather than a restrictive framework to be slavishly followed, and potentially be inhibited by.

Process

There is an optional energising activity after lunch; otherwise this session begins with a front-led plenary presentation and then breaks down into individual work, paired/small-group sharing, and individual reflection. There is scope for individual, group and plenary intervention from the programme leader.

Structure

***Optional activity:** 30 mins

Use the Challenging assumptions activity as an energiser and an analogy to thinking creatively and overcoming sticky assumptions so as to see the thesis structure as a tool to be used, rather than a formula to be followed.

Front-led plenary session on the basics of thesis structure 5 mins

Front-led plenary discussion on the assessment criteria for a doctorate 15 mins

Small group discussion of the building blocks of a thesis 15 mins

Individual reflection on own potential thesis structure, and paired/small groups discussion of these. 25 mins

Resources

Slides: 12 - 16

Note: The text on slides 13-15 needs to be adjusted to reflect the assessment criteria of the institution.

For the programme leader:

- whiteboard or flip chart or data projector
- *Challenging assumptions

For participants:

- Note pads and pens
- Paltridge's Four Thesis Archetypes [Handout 2]

Material that might be of use:

- University assessment criteria for research degrees

This can be a useful session to mix the groups, in which case the coloured postcards can offer a simple way of doing this in a visibly random way.

Detail

Front-led plenary session on the basics of thesis structure

5 mins

The first phase of the session is a return to the idea of two theses, and to the second of them: the written document.

Front-led plenary discussion on the assessment criteria for a doctorate

15 mins

At this point it is worth making the participants aware of how much, or little, they know of the assessment criteria they will face by asking them what the word limit is for a doctorate. Experience suggests many will not know, and some will have a rough idea. There may well be some debate.

As well as being able to clarify the answer and deal with issues such as whether they are maxima or minima, or both, this process should also illustrate how little the participants know about the specifics of the assessment criteria. This is good basic information that it is extremely useful to grasp earlier rather than later in the process. Also, it is a powerful counterbalance to the thesis defining aspect, in that it returns to the 'examinable qualification' side of the doctorate.

With this in mind, there is then scope to examine the overall assessment criteria for the doctorate, as set out in the University documents. This should be information the participants are familiar with, but they very rarely are. As such, the session allows you to walk through the various criteria and pick apart what they mean in practice. This usually results in a lively discussion, and is a good springboard to directing the participants to other regulations (e.g. thesis preparation) that they should check after the course.

Small group discussion of the building blocks of a thesis

15 mins

Once the assessment criteria have been addressed, we return to the basic question: How should a thesis be constructed? Here, the Paltridge (2002) research is useful. The session works with either a general small-group discussion on the building blocks of a thesis before looking at the Paltridge archetypes, or a discussion around them.

The point of the discussion is to get participants to think critically about how they might structure their work to best support their hypothesis. In doing this, it is important to draw on the idea of challenging assumptions. One very easy, but little used, example is that of the single overall literature review; why not have specific literature reviews at appropriate points: methodology, analysis, background, theory, etc.?

Individual reflection on own potential thesis structure

25 mins

After this general discussion, the participants should be pushed towards considering how they might structure their own thesis. (This is very similar to the methodology of the previous session, which the participants should therefore be comfortable with.)

Many will simply want to pick one of Paltridge's four. Whilst there is nothing wrong with this, it is important that they go through the process of building the structure that will work best for them, rather than just adopting one of these. This can require some pushing, and will often result in a blended outcome.

Potential issues:

- **Disciplinary restrictions:** A not uncommon issue is that there is a set way of doing this in X discipline. And clearly there are accepted conventions. However, it is worth pushing this a little: How much is restricted? Is it what must be included, or in what order, or in what precisely defined structure? And of this, how much is actually restricted, as opposed to being merely how most people do things because they don't question it? Without knowing the discipline in detail, it will always be hard for the programme leader

to give answers here, but the aim, as ever, is to prod for the participants to be thinking about the questions.

- **Thesis by publications** (compilation): This appeals to lots of researchers, but is usually restricted to contexts where this has been specifically agreed to in advance by the institution. Hence, this fourth archetype is best presented with a slight 'health warning'.
- **Practice-based doctorates**: These are becoming increasingly common, but as yet no research has been done on the theses types. However, every practice-based participant on this course who has considered the question has felt that the structures presented by Paltridge feel appropriate to their context.

Session 6 – Managing your doctoral process

(60 minutes)

Purpose

To step back to the macro-level that was left with the doctoral mountain, and to consider specific aspects of the doctoral process over which participants can have effective management.

Process

The five topics are discussed in pairs (or one trio where numbers are uneven). Each discussion should be in a different pair, in a 'speed dating' format.

Structure

Front-led plenary introduction to the session	5 mins
5 x paired discussions of the assigned topic	50 mins
Typically these conversations are 5-6 mins long, with the additional 4-5 mins being useful for any quick plenary comments or summaries, plus allowing the logistics of forming the next pairs	
Wrap-up, personal notes, etc.	5 mins

Resources

Slides: 17 - 22

For the programme leader:

- whiteboard or flip chart or data projector

For participants:

- Note pads and pens

Detail

Front-led plenary introduction to the session 5 mins

After a lot of micro-level thinking, the aim here is to pull the participants back out to a macro level, ready for action-planning. And to do that by looking at five specific aspects of the doctoral process which they could be managing more effectively. It also offers them the chance to have five different conversations with five different people, ideally ones they haven't worked with during the day (numbers permitting).

The plenary intro is simply to get them tuned back to a macro level and into the sorts of issues to be looked at.

5 x paired discussions of the assigned topic 50 mins

The mechanics of the 'speed dating' format are fairly straightforward:

- Pair-up with someone you haven't yet worked with (this afternoon if numbers are low)
- Have one trio if there is an odd number of participants, but manage this a little so that different people are in the trio each time

The timings of the discussion should be set at the outset 5 mins is usually sufficient. It creates a positive impact to have people wanting to discuss more at the end of this, since that is a powerful suggestion to them that this aspect of their doctoral process is one they need to be thinking about more. After all this session is just a taster.

In each 5-minute discussion, both participants should be responding to the question. As programme leader it is useful to monitor this to make sure one side doesn't dominate. Also,

there is scope here for interventions in the pairs, and a few minutes of bringing things together between discussions, whether sharing key points heard in individual conversations, addressing general concerns, etc.

The topics themselves are pretty self-explanatory, and pick up many of the points raised earlier in the day, especially the CSFs. However, a few notes are included for reference:

- **The project: is everything you are doing taking you towards the end of the project?**

As well as a general discussion around time management and effectiveness, this can also be linked back to the thesis, i.e. is the work serving that, which is presumably the most direct route to the end of the project?

- **Where is your plan? And when was the last time you revisited it?**

A general discussion around planning, so lots of scope to look at tools for this. A key aspect being that plans need to be used, rather than being static things 'that have been done'. This session also introduces the idea of supervisor management, as well as linking back to time management.

- **How does your supervisory balance look?**

The focus here is on the second year need to be moving towards independence. This can be focused around proactivity towards supervision meetings, and especially sharing ideas for getting more out of these.

- **When was the last time you wrote something?**

This relates back to the CSFs encouraging getting down to writing sooner rather than later, and some of the prompts for doing it. Writing triggers can also be linked to the thesis structure or the defining of the thesis.

- **Who is in your support network?**

A good chance to really tease out who is there, who could be there (casting the net really wide, recalling the final CSF for the morning session), and also focusing on what they are there for. Finally, the very important aspect of expectations is in here for discussion. Just because you think someone is in your network, doesn't mean they think they are, or for the purpose you think they are.

Wrap-up, personal notes, etc.

5 mins

Since the next session is Action planning, there isn't a great deal of need for note-taking here, but on occasion participants may just want to gather a few thoughts before moving on.

Session 7 – Action planning

(30 minutes)

Purpose

To set specific actions as a result of the day's activities, and to integrate these with both training opportunities and peer-agreed targets.

Process

Participants individually, or in pairs, work through the action plans, including consulting any provided materials about training opportunities available. They then agree with a peer a deadline to meet and review.

Structure

Front-led plenary introduction, including quick review of the day's coverage	5 mins
Personal action planning and agree progress review meeting	25 mins

Resources

Slide: 23

For the programme leader:

- whiteboard or flip chart or data projector

For participants:

- Action plans [Handout 3]

Material that might be of use:

- Details of training and support provision within the institution

Detail

Front-led plenary introduction, including quick review of the day's coverage 5 mins

The core elements here are to get the participants to specifically apply all that has been covered in the day to their own situation.

Personal action planning and agree progress review meeting 25 mins

Action planning should also include reference to any training provision materials that are available, so that participants can select appropriate training interventions at relevant times in the process.

Finally, each participant should agree to meet for a progress review meeting with at least one other participant. This could be in pairs or small groups. It is crucial that dates and times are agreed now, to maximise the chance that these meetings will actually take place. To give this a little weight, there is space to co-sign the action plans.

Session 8 – Wrap-up and review

(15 minutes)

Purpose

Closure for the session, and to leave the participants with a slightly more positive perspective than they started with. Plus evaluation of the course, if required.

Process

Front-led plenary, followed by individual completion of evaluation process, as required.

Structure

Closing remarks	5 mins
Evaluation forms, if required	10 mins

Resources

Slide: 24

For the programme leader:

- whiteboard or flip chart or data projector

For participants:

- Evaluation forms

Detail

After reminding participants of the Mount Everest picture and the Zig Ziglar quotation, you can suggest that whilst doing a doctorate is a challenge, it is probably not as challenging as climbing Everest. And it is important to maintain a perspective on it.

Handouts

Handout 1: Course programme, p.29

Handout 2: Paltridge's Four Thesis Archetypes, p.30

Handout 3: Action plans, p.31

Effective Researcher: Effective Progress Programme

Aim and learning outcomes for the day

The aim of the day is to help you maintain the momentum of your doctorate as you enter your second year (full-time equivalent), and to refocus on the wider process of successfully completing your doctorate on time.

The learning outcomes of the course are to enable you to:

- clarify where you are within the doctoral process, the progress you have made so far and how this relates to the overall project
- identify some critical success factors for the second year of a doctorate
- define and express clearly and cogently your research hypothesis (the thesis in your thesis) and some research questions
- focus on what your thesis should look like (structure), including considering the assessment criteria
- have the tools and techniques to strategically manage the rest of your doctorate
- develop your individual plan for the coming year, and agree a review procedure for it

Programme

09.30	Introduction to the day
09.45	Climbing the doctoral mountain (Reflections on the previous 12 months or so)
10.30	The view from here – Who will finish the climb and who might fall (Critical success factors for the second year)
11.15	Break
11.30	Two theses: What is your thesis trying to say? (Hypothesis and research questions)
12.30	Lunch
13.30	Two theses: Fitting the pieces together (How to construct your thesis and meet the assessment criteria)
14.30	Break
14.45	Managing your doctoral process
15.45	Action planning
16.15	Wrap-up and review

Paltridge's four thesis archetypes²

Paltridge, B. (2002) 'Thesis and dissertation writing: an examination of published advice and actual practice', *English for Specific Purposes*, Volume 21(2), 125-143

This article presents an analysis of fifteen doctoral theses from a range of disciplines, for the purpose of comparing these with the published advice given in eight then-recent 'doctoral guide'-type publications from around the English-speaking world. In contrast to what is found in the guides, Partridge identified four generic thesis structures within the theses he analysed:

Traditional Simple, Traditional Complex, Topic Based and Compilation Based.

Traditional Simple

- Introduction
- Literature review
- Materials and methods
- Results
- Discussion
- Conclusions

Topic Based

- Introduction
- Topic 1
- Topic 2
- Topic 3 etc.
- Conclusions

Traditional Complex

Introduction

Background to study and literature review
(Background theory)
(General methods)

Study 1

- Introduction
- Methods
- Results
- Discussion and conclusions

Study 2

- Introduction
- Methods
- Results
- Discussion conclusions

Study 3 etc.

- Introduction
- Methods
- Results
- Discussion and conclusions

Discussion

Conclusions

Compilation Based

Introduction

Background to the study

Research article 1

- Introduction
- Literature review
- Materials and methods
- Results
- Discussion
- Conclusion

Research article 2

- Introduction
- Literature review
- Materials and methods
- Results
- Discussion
- Conclusion

Research article 3 etc.

- Introduction
- Literature review
- Materials and methods
- Results
- Discussion
- Conclusion

² With Thanks to Dr S. Gaskin, University of Exeter

My doctoral action plan

What are the critical success factors for my doctorate? For this year specifically?

What are the potential obstacles to achieving these? And for each obstacle: How might I overcome it?

What should be my first steps towards making progress?

What are 3 key habits or behaviours to modify in order to improve my doctoral process?

1.

2.

3.

What are 3 key areas of continuing professional development I want to address? (And how might I address them? Reference materials...)

1.

2.

3.

Identify some milestones (to monitor my progress)

1 month

-
-
-

3 months

-
-
-

6 months

-
-
-

1 year

-
-
-

When will we meet to review progress of this? (Suggested in 1, 2, or 3 months)

Date: _____

Signed:

Signed:

References

- Becker, H.S. (2007) 'Writing for social scientists: how to start and finish your thesis, book or article' 2 edn, Chicago & London, University of Chicago Press
- Bolker, J. (1998) 'Writing your dissertation in fifteen minutes a day: a guide to starting, revising, and finishing your doctoral thesis', New York, Holt
- Brewer, R. (2007) 'Your PhD thesis: how to plan, draft, revise and edit your thesis', Abergele, Studymates
- Dunleavy, P. (2003) 'Authoring a PhD: how to plan, draft, write and finish a doctoral thesis or dissertation', Basingstoke & New York, Palgrave-Macmillan
- Hall, G. & Longman, J. (eds) (2008) 'The postgraduate's companion' London, Sage
- Hamarskjöld, D. (1997) 'Markings' trans. Sjöberg, L. and Auden, W.H., London, Faber & Faber
- Jackson, C. & Tinkler, P. (2007) 'A guide for internal & external doctoral examiners' Issues in Postgraduate Education: Management, Teaching and Supervision 2.2, London, SRHE
- Paltridge, B. (2002) 'Thesis and dissertation writing: an examination of published advice and actual practice', English for Specific Purposes, Volume 21(2), 125-143
- Phillips, E.M. & Pugh, D.S. (2010) 'How to get a PhD: a handbook for students and their supervisors' 5 edn. Maidenhead, OUP
- Roam, D. (2009) 'The back of the napkin: solving problems and selling ideas with pictures' London, Marshall Cavendish
- Rugg, G. & Petre, M. (2004) 'The unwritten rules of PhD research' Maidenhead, OUP
- Tinkler, P. & Jackson, C. (2004) 'The doctoral examination process: a handbook for students, examiners and supervisors', Maidenhead, SRHE & OUP
- Watson, D. (2004) 'Gobbledygook: how clichés, sludge and management-speak are strangling our public language' London, Atlantic



About Vitae

Vitae is supported by Research Councils UK (RCUK) and managed by CRAC: The Career Development Organisation. Vitae's vision is for the UK to be world class in supporting the personal, professional and career development of researchers.

To achieve our vision we have four aims:

- building human capital by influencing the development and implementation of effective policy relating to researcher development
- enhancing higher education provision to train and develop researchers
- empowering researchers to make an impact in their careers
- evidencing the impact of professional and career development support for researchers.

Vitae's work with higher education institutions

Vitae works with UK higher education institutions (HEIs) to embed professional and career development in the research environment. Vitae plays a major role in innovating, sharing practice and enhancing the capability of the higher education sector to provide world-class professional development and training of researchers. We do this both through national projects and through Hub activities.

The programme develops resources for use by trainers and others working with researchers; and provides opportunities for HEIs to share information and practice; develop ideas and approaches; and work collaboratively.

For further information about the range of our resources, email resources@vitae.ac.uk or visit www.vitae.ac.uk/resources

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