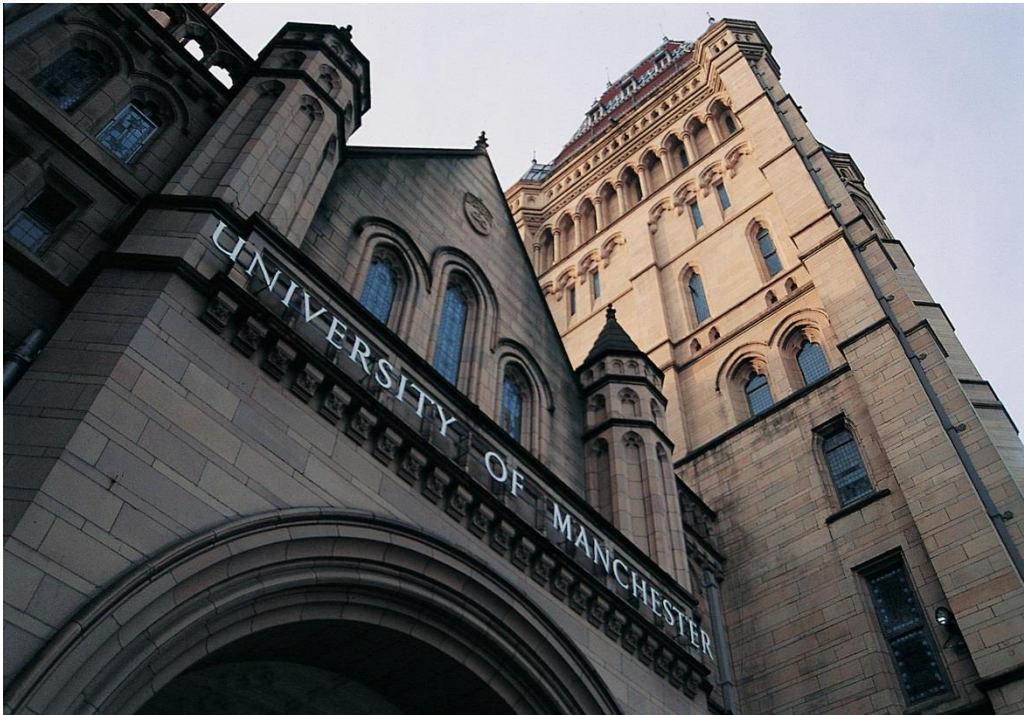# Successful professional doctorate

Dr Kai Uus, MD, PhD

Reader in Audiology

Division of Human Communication, Development and Hearing

School of Health Sciences, Faculty of Biology, Medicine and Health

University of Manchester

Physiological Sciences (Audiology – UoM)

Year 1

| A1 Semester: 1 30 credits | B1 Sem: 1 15 credits | | A2 Semester: 2 20 credits | B2 Sem: 2 10 C | B4 Sem: 2 10 C |

Year 2

| A3 Semester: 1 30 credits | B3 Sem: 1 10 C DL | | A4 Semester: 2 20 credits | A5 Semester: 2 20 credits | B5 Semester: 2 20 credits | B6 Sem: 2 15 C | Submit Research Project Form |

Year 3

C - Research Project

Year 3 workshop – September
- How to give a lay talk
- Lit review vs systematic review

B8 Semester: 1 15 credits

Submit Literature Review

B7 Semester: 2 20 credits

Give Lay Talk

Year 4

C - Research Project

B9 Semester: Both 25 credits

B10 Sem: 1 10 C

Year 4 workshop - January
- How to write a thesis
- How to write a paper
- How to give a professional talk

Year 5

C – Research Project

Submit Thesis

Viva voce examination

| Title	PhD	D Sci. Clin.	Au.D.
Objective	Research: Training Professional Researchers	A programme of advanced study and research which, whilst satisfying university criteria for the award of a doctorate, is designed to meet the specific needs of a professional group external to the university, and which develops the capability of individuals to work within a professional context	Research and development of professional practice [6]
Motivation	Entry to a research career, exploration of a particular area of interest	Progression to registration on the HSS register to apply for Consultant Clinical Scientist Post	"The AuD prepares individuals to become independent clinicians and supervisors of clinical practice who may be employed in clinic, hospital, and university settings and in private practice."
Enrolment	BSc 2:1 or MSc	BSc 2:1 or MSc + Professional qualification in Audiology	MSc Audiology
Availability	Variable	1 in UK	75 AuD programmes offered . 1 in UK (Nova Southeastern University in London)
Subject areas	All	Audiology and Management	Audiology
Origins	1917	2014	1994. Since 2007 replaced MSc as entry qualification to Audiology in US
Cohort	Predominantly self-directed study	Cohort programme	Cohort programme
Typical Cohort Size	Risk of ''lone researcher syndrome''	3	< 20 pa
Taught Time	Small taught component	Large taught component, work based learning	Majority taught component
Structure	Monolithic	Modular	Modular
Breadth of Learning	Single specialist topic	Range of topics within Audiology	Range of topics within Audiology
Depth of Learning	Level 8	Level 8	
Leadership Training	Minimal	Leadership modules through-out programme	Minimal
Thesis Word Count	<80,000	20,000-30,000	No thesis
Research Time	Almost 100%	40%	5% (Research methods module) [7]
Future Career Options	Improved employability	Progression to registration on the HSS register to apply for Consultant Clinical Scientist Post	Mandatory for working in US
Assessment	Single thesis	Module assignments, reflective practice, thesis	Module assignments
Disadvantages	PhD - limited interdisciplinary working and too much compartmentazation of knowledge Gilbert (2004)	Time demands	
Duration	Typical maximum 4 years full time Typical maximum 8 years part time	5 years part time	4 years
Support	2 Supervisors	Academic Supervisor + 2 Thesis Supervisors	
Funding	Research Grant which may cover course fees, stipend, additional costs OR self funding	Health Education England provides training allowance to employer + tuition fees	

Comfort zone

Easy, stress free, "doing ok", no dramas, happy,

content

Stretch zone

Pushing performance, high effort, improving, excitement, adrenaline, growth
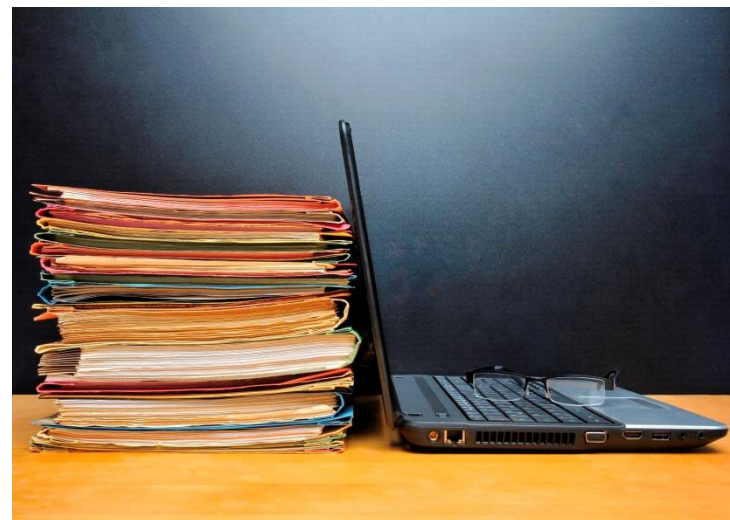
Panic zone

Anxiety, worry, bad decisions, irritable, concern, poor performance
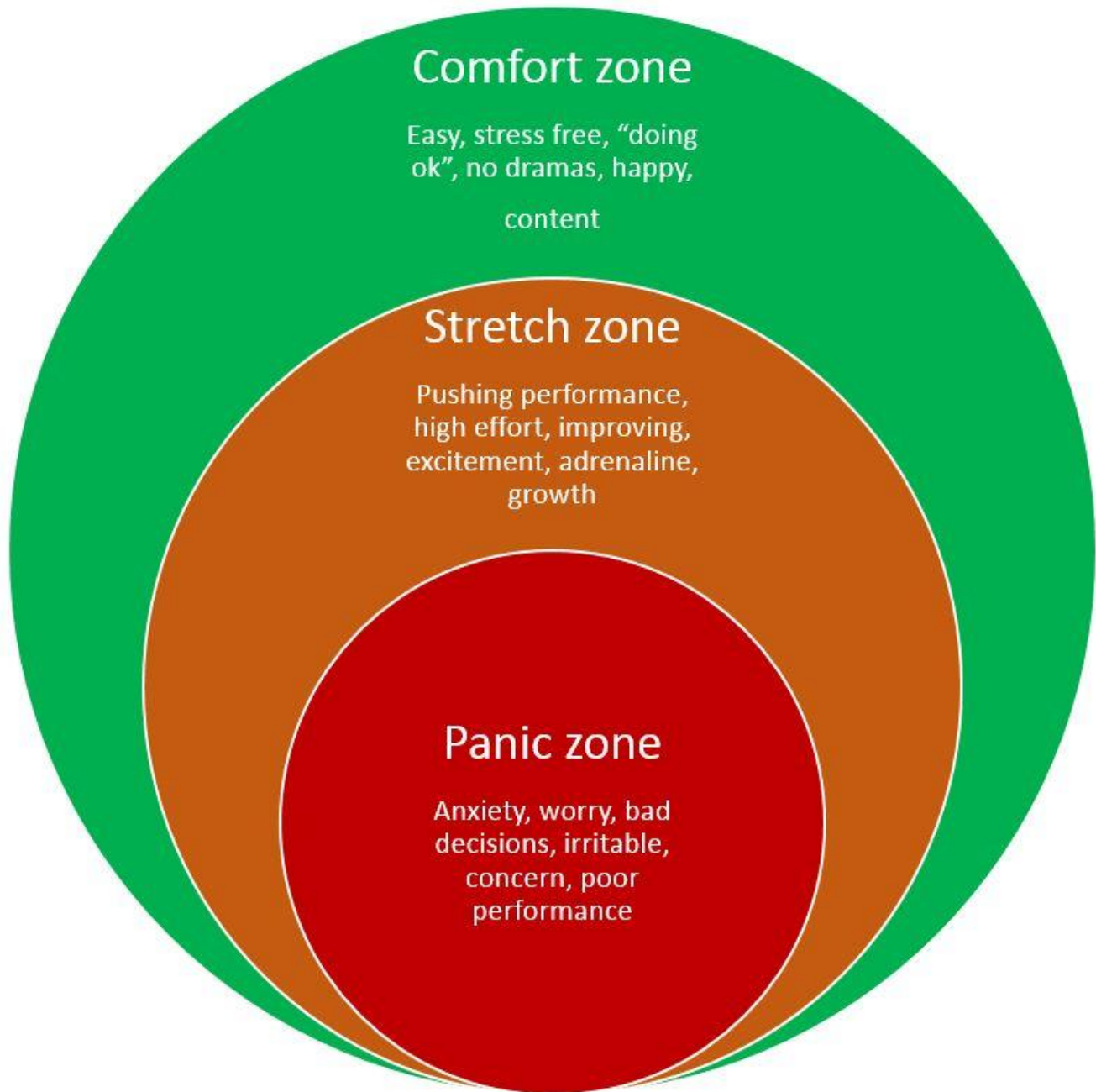
What is successful research?

- Research which can be presented at national and international meetings
- Publishing your data in peer reviewed journals
- Research that has an impact for health care
- Research resulting in a well-written thesis

# What is an acceptable Research Project?

- *If we knew what it was we were doing, it wouldn't be called 'research, would it?*
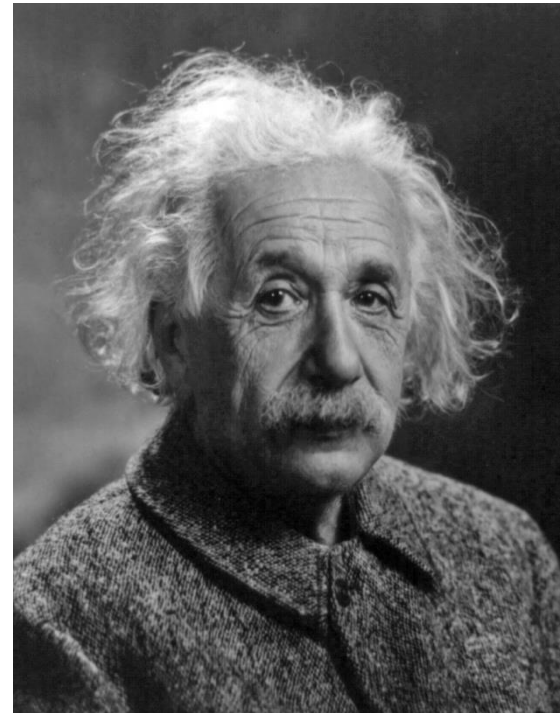
What is an acceptable Research Project?

- **Good Background** showing the importance and clearly identifying where there are gaps in knowledge

- **Critical Evaluation**

- **Synthesis**

- **Hypothesis** leading to Aims and Objectives

- One, two or three sets of data that form chapters in a thesis or one or more papers

- **Discussion** of the outcomes, importance, impact and contextualising

Project management
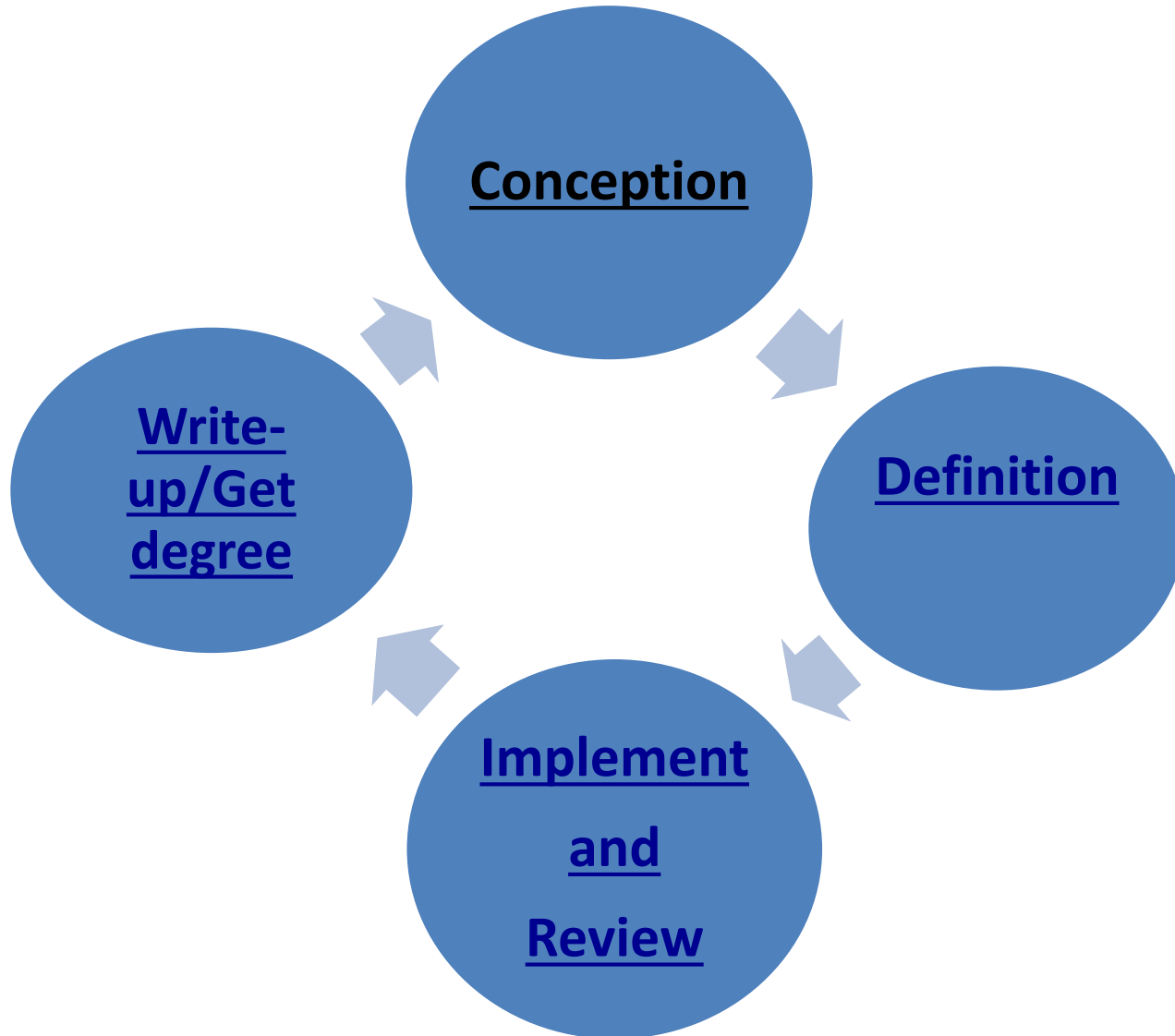
Feasibility and validity
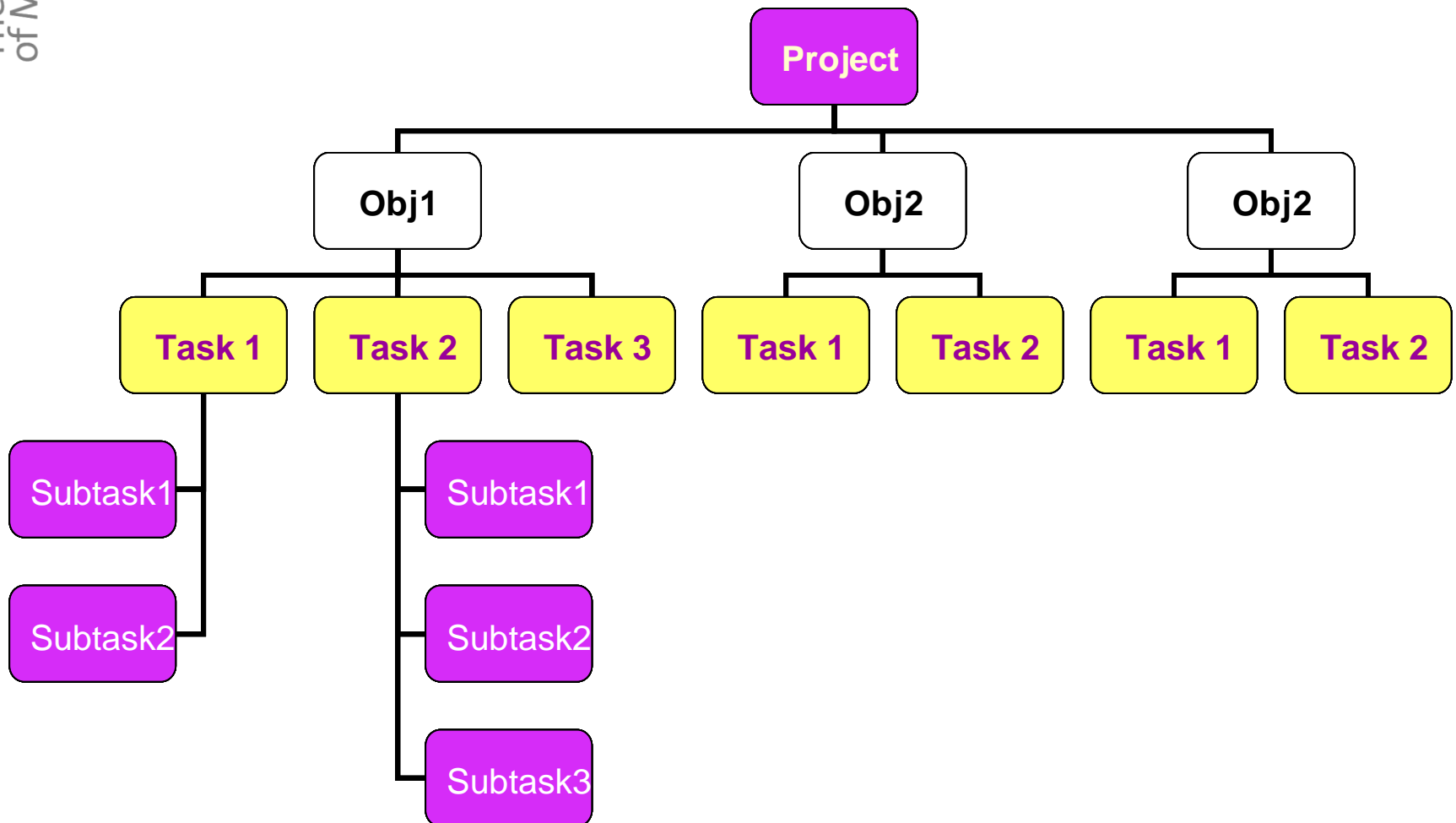
Visualisation

- **Is it a worthwhile project?**
- **Think of how you are going to present it**
- **Think who your audience will be**

Fig.1: Effect of EGF conc

cMyc mRNA

Time of incubation

10
1.0
0.1

Fig.2: Compare E vs F Cells

cMyc mRNA

EGF

Fig.3: cMyc mRNA

Isoform 1
Isoform 2

E E F F E E F F

Log Phase   Confluent
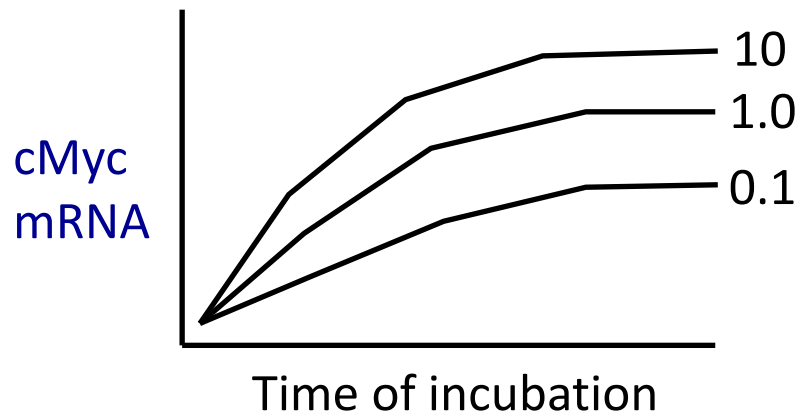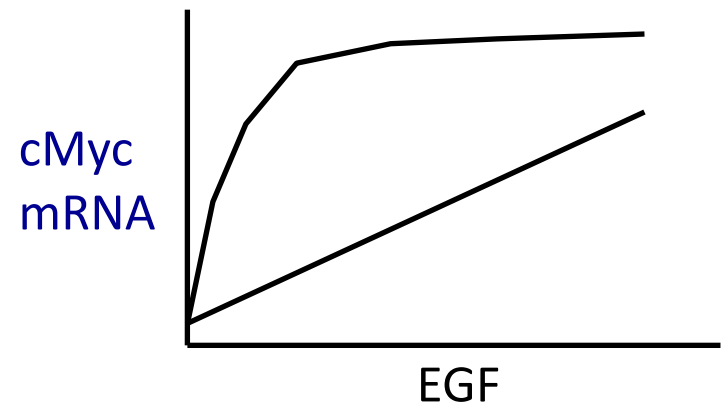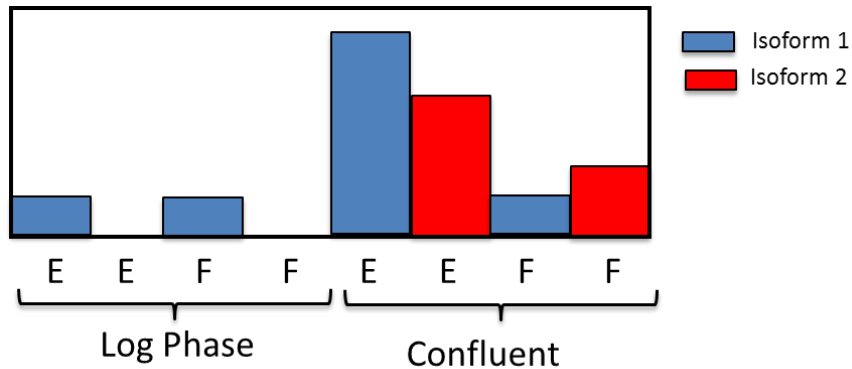
Table 1

serum	% inc
0 %	2
10 %	50
20 %	70

What controls do you need?

Prioritisation

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Register	♦												♦
Literature review													
Deadline for literature review			♦										
Prepare and rehearse presentation													
Presentation to School/Department								♦					
Documented meeting with supervisors	♦	♦	♦	♦		♦		♦	♦	♦	♦	♦	
Plan first research unit													
Present outline of first research unit					♦								
First research unit													
Review and analyse research results													
Survey of literature													
Courses/conferences													
Learning about equipment & techniques													
Holiday													
Second research unit planning													
Second research unit													
Drafting transfer report													
Finalise transfer report													
Deadline for transfer report											♦		
Transfer viva												♦	
Visit from leading professor					♦								

Project timeline – Gannt chart

Triangle of Constraints

Quality

Resources

Research aims

Time

Research Planning Meeting

Progress Meeting

Thesis Meeting

Jan 08 | Month | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Dec

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Literature Report Meeting

Continuation Report Plan Meeting

2nd Year Report & Progress Meeting

Beware of Scope Creep

Additional ideas!!!

If you need to change the scope, ensure that:

- Everybody is aware of the impact on the schedule and outcomes of the project

Original plan
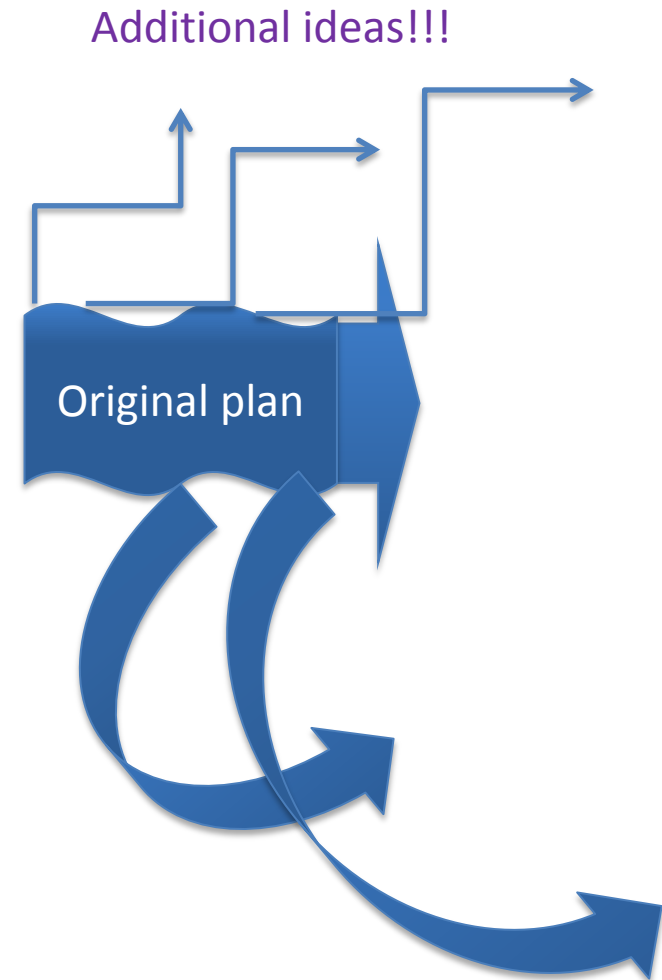
This is project management- at a distance/in a team?

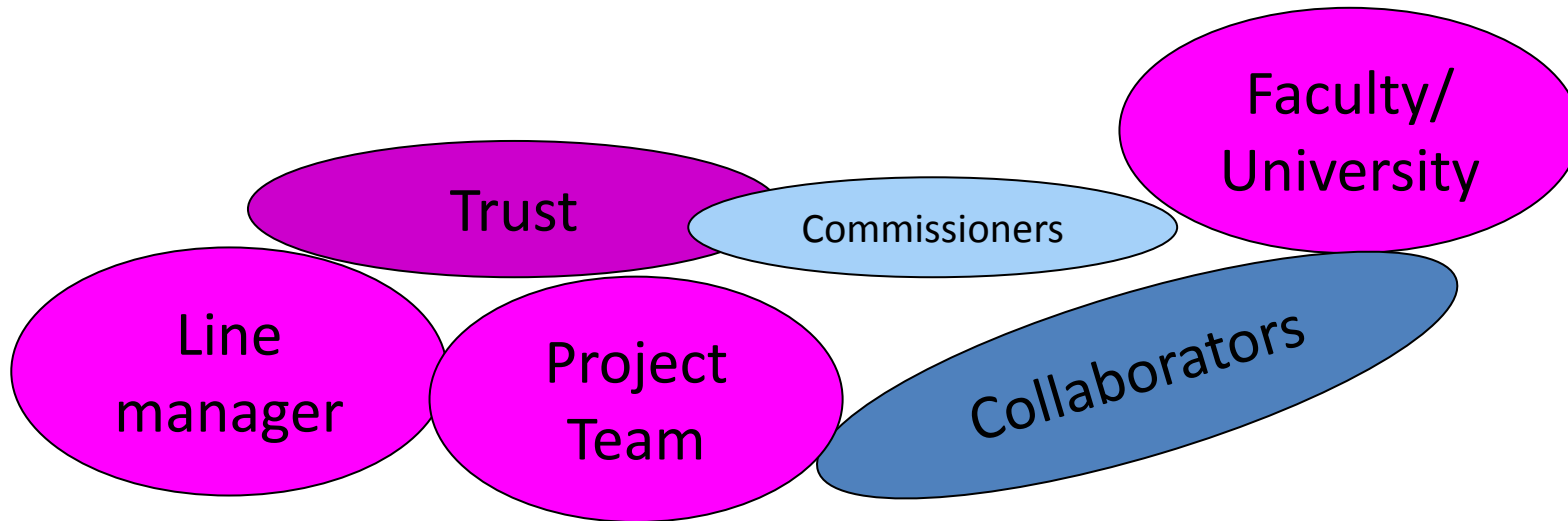**Opportunity for greater success
BUT
Greater risk of things going wrong!!!**

Engaging Stakeholders

Who will be affected?
Who will be needed for support?
Who will be interested in the outcomes?
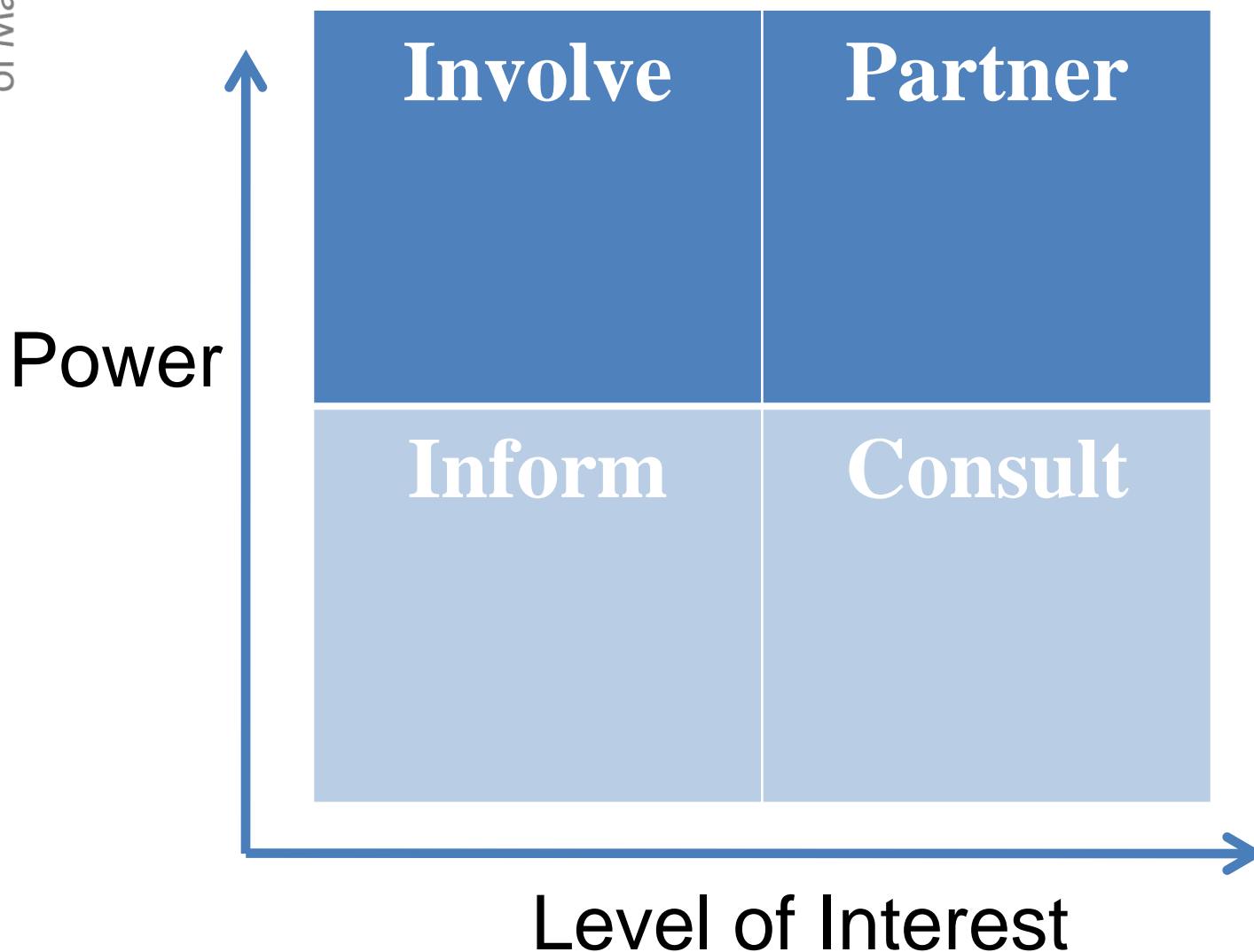
Faculty/ University

Trust

Commissioners

Line manager

Project Team

Collaborators

How do you manage the stakeholders expectations?
Think about reporting and communication - help each to appreciate the value of the project throughout

What do you need to know?

- What resources are you lacking to complete the project?

- How much responsibility does each supervisor have?

- What's their level of interest?

- How are you going to engage with each supervisor?

- Do you need to manage them?

- Are there potential conflicts between you and a supervisor? How do you resolve this?

- Are other collaborators involved and have you been involved in establishing guidelines with them eg author on a paper?

Risk analysis

Risk (Probability x Impact)
1- 2 : Low
3 - 4 : Medium
6 - 8 : High
9 : Extreme
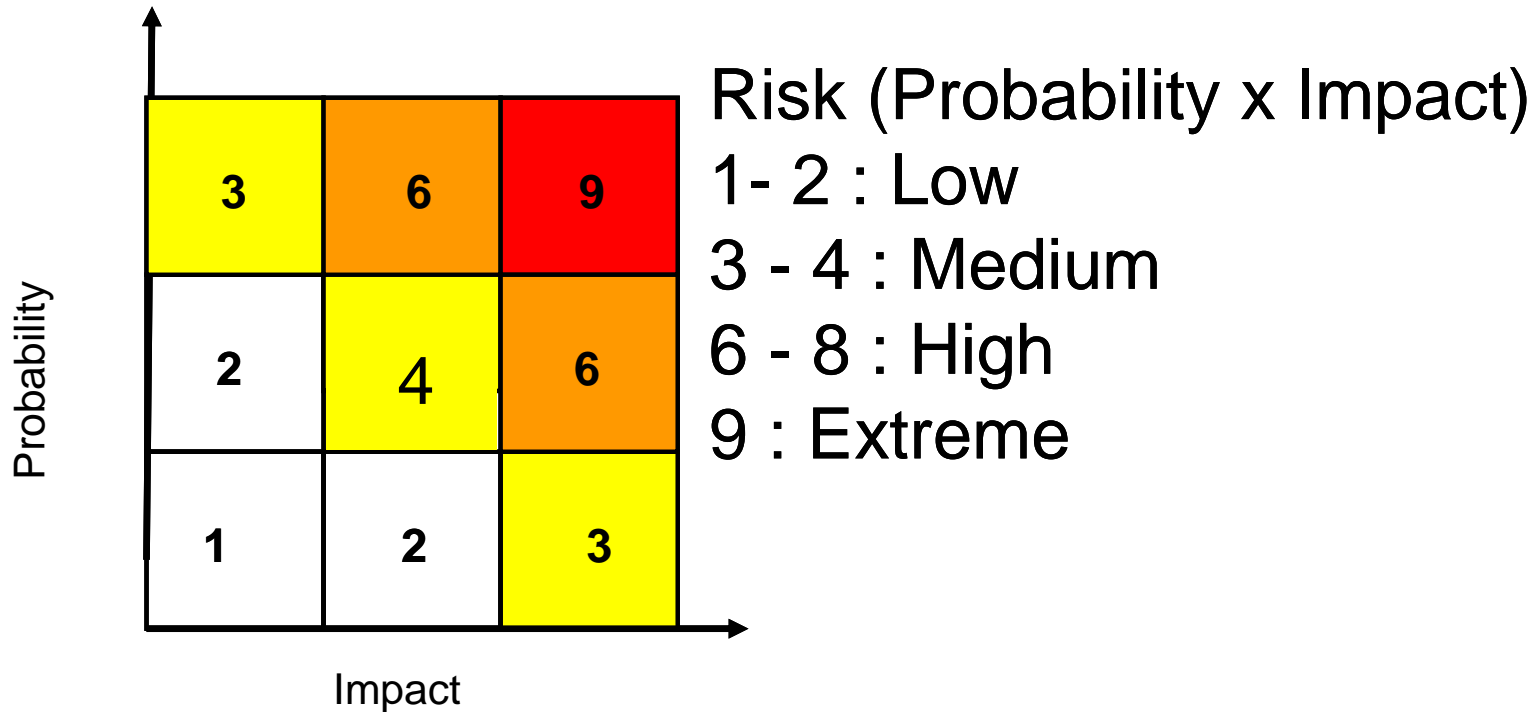
Minimise, eliminate or have a contingency

The reality of research

- Things go wrong!
- The direction of the research may change based on the results
- New data emerges from the research field

The project plan must anticipate all of this and more…

Struggling with progress

This can suggest:

- project objectives are unclear
- You are unconvinced about the project
- The project is too large
- Unsure of responsibilities
- Need additional support or experience

- *Respond to delays early*
- *Consider implications if you adapt the plan*
- *Can you increase resources and/or engage others*

Monitoring progress

- Your Workplace supervisor:
  - Should decide on an appropriate communication/monitoring system (type and frequency)
    - steering group meetings
    - regular project team meetings
    - weekly/monthly updates (paper or email)

- Your Academic Supervisor
  - Take responsibility for deadlines on University system
  - Adapt planning timelines from PhD and fix meetings

- Constant communication and transparency- particularly when things go wrong

Research project planning

- Project planning
  - should be a tool not a straightjacket
    - should be dynamic with regular, fixed reviews of progress
  - It can help research team communication
  - It can check on common understanding
    - Between workplace supervisor and academic supervisor but also with   line manager, team, collaborators, funders)
  - It helps to ensure research dissemination
    - Papers, presentations, Follow up funding

Supervisor interaction

- Usually by skype or teleconference.

- One meeting each year is important/preferable

- Who sets the dates for meeting?

- What happens if project not going well-who identifies this? Who do the supervisors get help from?

- Academic supervisor should take lead on reading drafts of thesis.

Supervisor roles

Workplace Supervisor	**Academic Supervisor**
• Detailed knowledge of the project background • Understanding of the constraints on the student • Usually close by to give day–to-day advice	• Understands the academic process for Doctoral degrees • Has experience of supervising PhDs/MDs • Understands the constraints • Can find the University person to provide guidelines for the degree

Advice

Your Academic supervisor

- Contact administrators re guidelines
- Liaise with Programme Directors about project content
- Contact MAHSE about deferrals

Your Workplace supervisor

- Liaise with line manager about time constraints
- Contact NSHCS on HSST
- Get advice on funding from the Commissioners

Examination process

- Decide now when thesis should be submitted

- Determine the appropriate format now and perhaps modify with time

- Six months to go - suggest external examiner by discussing at supervisory meeting

- Which of your supervisors will read which parts of the thesis?

- Ensure care is taken to meet the University submission requirements

- Get advice from academic supervisors on the examination process at viva

- Celebrate!!!!!

What skills you will learn?
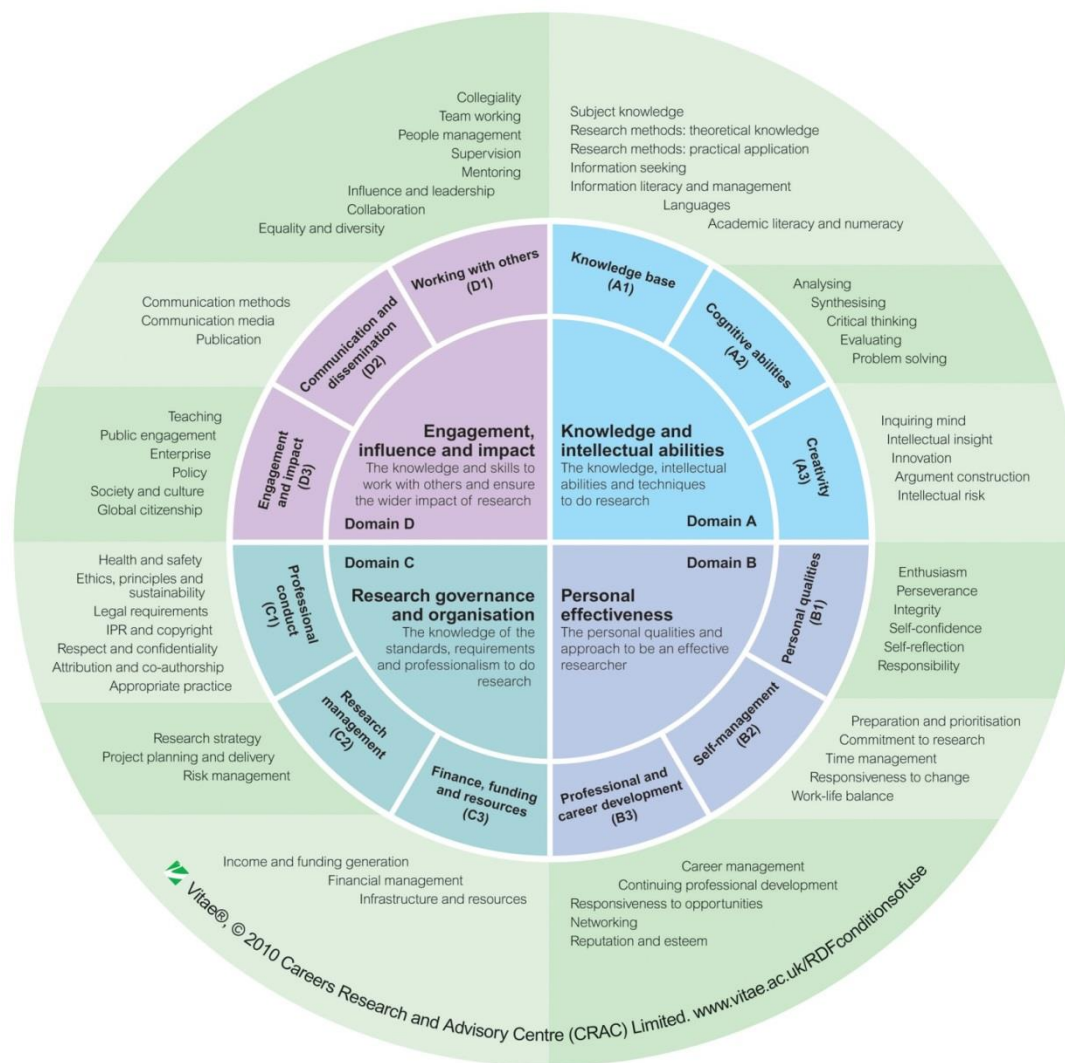
Journal Format

- The aim of journal format is to break the thesis into more manageable, 'bite-sized' chunks
- The advantage of this format is that it gives you the experience of writing in journal paper format.
- Comprises chapters that have been written in the form of journal papers – targeted to a relevant journal in the field.
- Format, presentation and word count will follow the guidelines of the target journal
- These may be papers that have been submitted to a journal, already accepted and published or chapters that are written as journal papers but are not yet submitted or ever intended to be submitted.

Systematic Review

- Default format for the Literature Review –closely linked to the main research project
- This may not suit all projects and an alternative approach should be discussed with the supervisory team
- The level of systematic review should also be agreed
- Presentation:
  - Follow the format and guidelines for the target journal
  - If no word count given the review should be a maximum of 8,000 words *(excluding references and tables)*

Empirical Results Paper

- **Introduction:** Present the background and argument for your review or study. Be explicit about aims, research question and/or hypotheses. *Do not copy and paste from your literature review to your empirical study*.

- **Method:** Include type of review/design, inclusion/exclusion criteria for papers or participants, measures, procedures, quality appraisal or statistical analysis plan

- **Results:** Balance descriptive text and tabulated information with an analysis of data.

- **Discussion:** Present a summary, a discussion of your findings drawing on relevant literature, strengths and limitations of your review/study, clinical and/or theoretical implications, suggestions for future research, conclusions.

Empirical Results - *presentation*

- This paper(s) should also be prepared in accordance with the guidelines of a specific journal

- **Word count:** in line with the target journal (if none stated 8,000 maximum)

- **Co-authors:** The contribution of co-authors must be clearly acknowledged

- **Reference list:** Apply the target journal's referencing style consistently. Include DOI numbers. Use Endnote.

- **Figures and Tables**: For your DClinSci thesis place these in the main text for reading ease but if your manuscript is to be submitted to the journal they should be placed after the reference list.

- **Footnotes:** Can be used to refer the reader to additional discussion points in the *critical reflections paper*

Critical Appraisal Paper

- The focus of this section should be a consideration of how your present project fits in with contributes to theory and clinical practice in the particular field.

- If you have done a systematic review and study, the critical appraisal paper should put the current review and project in the wider context of research and clinical practice and link the review /project findings to relevant theoretical underpinnings.

- *It is not expected that this paper would be submitted to a journal*

What to include?

- Refer to and appraise the research process as a whole, making reference to what was not done and why it was not done, as well as to the work that was actually carried out.
- Strengths and weaknesses of the project (i.e. the work actually carried out rather than the methodology or line of enquiry as a whole)
- Advantages and disadvantages of the broad methodological approach used in the project and consideration of alternative methodologies that could have been utilised.
- Limitations of the line of enquiry as a whole
- Implications for theory and for clinical practice
- Suggestions for further research or implementation

Presentation

- **Word count** (no more than 6,000 words)
- **Duplication and length -** incorporation of publication-style sections in the thesis will invariably lead to some duplication (as each section will have self-contained components that overlap other sections) across the various sections of the thesis
- **References** ???

The project is only successful when it's finished