Seminar: How to Supervise PhD Students

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ABSTRACT
Research-intensive universities are under pressure to build and sustain large, high quality programs of doctoral students. The success of these strategies depends very much on a superior research culture and superior research supervision, seen in terms of organization, operation and culture, which need to be strongly led, lively, productive and satisfying for both supervisors and supervisees. This seminar draws on the presenter's experience of nearly 40 years of research student supervision. It discusses both large-scale and small-scale management and execution of supervising - or, as it is increasingly called, "advising"; the nature and quality of the supervisor-supervisee relationship and experience; apprenticeship approaches to the notion of "research student"; things which work and things which don't; and progressively integrating supervisees into high-level intellectual research cultures.

Email: sussex@uq.edu.au
Radio: http://www.abc.net.au/local/podcasts/inyourear.xml

SAMPLE RESOURCES
Sussex, R. (MS, distributed). "So you want to do a PhD?". Published in The Australian.

Keywords for WWW search:
"how to supervise PhD students"
supervise, supervision
advise, advising
research
student
candidate / candidature
scaffold, scaffolding
apprenticeship
professional, professionalization
INTRODUCTION

The candidature (simple view)
Application > supervisor(s) appointed > candidature >
various checkpoints > submission > examination >
corrections/revisions > graduation.

Where to start?
University Processes Supervisor(s)
Student(s)
Research
Research culture
Inputs and outputs

Perspective
Harper Lee, To kill a mockingbird:
need to get into someone else's shoes and walk around in them
> keep trying to imagine what it is like from the student's point of view.

Roles and relationships
Supervisor: parent / uncle / aunt, guide, mentor
friend, colleague, co-author
adviser, supporter, leader
issues of authority, power, distance
Student: advisee
complements of the list above
Working relationship:
at outset, ongoing, on exit
fluid, changing, dynamic, developing
Republic of knowledge

Remote student: test case to identify issues, problems
distance facilities? social context?
peers umbilicus motivation
competing needs direction impetus
social contact

Outset
Student: excitement, hope, purpose, commitment
some unrealizable expectations
doesn't know what it's going to be like
Supervisor: if new: discovering how to do it
if experienced: "what's this latest one like?"

Exit
Student = independent self-guiding self-generating research machine
Supervisor = unnecessary (but may be friend, colleague, collaborator)

"RITE OF PASSAGE PRINCIPLE"
Key ideas

A PhD should be ORIGINAL and make a RELEVANT contribution to the discipline specified.

ORIGINAL?:

<table>
<thead>
<tr>
<th>Material, data</th>
<th>Theory</th>
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1. The most important property of a PhD = completion
2. Help student achieve their needs (meal ticket, discovery, change the world)
3. Scaffolding and its removal
4. Every student is different (one size doesn't fit all)
5. Every candidature is different
6. Every candidature is collaborative

Role of supervisor?

Provide
- full professional advice

Be
- alert
- accessible
- responsive
- resourceful
- reassuring
- frank, honest, direct (even if bad news)
- conscience
- independent judge
- strategist (withdraw for a period?)
SAMPLE EXPERIENCES OF PHD CANDIDATURE

At different times / points:

- Elation
- Achievement
- Progress
- Buzz with friends / colleagues

I can't make progress (plateau phenomenon)
I don't know where I am going
I don't know what to do next

- Depression
- Lack of direction
- Lack of motivation
- Guilt
- Boredom
- Desperation
- Exhaustion
- Stale

Give up?

ACTIVITY #1

Draw a 2 x 2 box.
The vertical dimension covers Personal // Professional
The horizontal dimension covers Good // Bad

In 5 minutes, fill in for YOUR PhD or research experience, what was good and bad in your professional and personal experience. Be frank.

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Bad</th>
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<tr>
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<td>Personal</td>
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Exit survey

- What was your PhD experience like?
- What did you learn? How?
- Was it fun?
- Have a strong basis (professional, emotional) for your future career?
What could have been done better?

- can we keep these questions in view during a candidature?
- rolling review / reflection / discussion / action
  WHAT? WHY? HOW? WHITHER (RS' paper)
WHAT?

(keep under rolling review)

The nature of the research question
NB: the question can evolve, change shape, even change
(and usually does)

Question
  original?
  start big and shrink
  can reshape, reorient

Balance
  data
  method
  theory

Student owns the project, sets the fences.
Must be doable in 3–4 years
Well defined

WHY?

Partly motivation
More
  gap in knowledge

Literature review:
  find and demonstrate a viable need
  pure research - meal ticket - change the world

Must have curiosity, buzz

HOW?

Method
  data?
  descriptive / interpretive?
  theory?
  model and test?

Qualitative / quantitative / mixed
Dörnyei

WHITHER?

What will be the contribution to knowledge?

What sort of knowledge?  
This also can change as the project advances.

Ideally know (roughly) at start.  
Serendipity is good. Allow and promote it.
TECHNIQUES AND TRICKS

STRUCTURE + VARIETY

VARIED ACTIVITY

1. Keeping things fresh: variety
2. Keeping things in view and in perspective:
3. Practising researching

STRUCTURE

Set by supervisor / student / other

time, task, meetings
schedule (daily, weekly, monthly)
targets, milestones

violon d'Ingres
physical exercise
physical and mental condition

Manage other obligations
    family (spouse, children, parents)
    financial needs

Manage:
    information
    references
    bibliographic material (sought and gathered)
text
drafts
argument structure

Persistence of information > recover, reflect, discuss
    Word + tracking
    Script + written / typed notes
    Audio-record supervision sessions
    > notes ...

! Machine readable, searchable, indexable

STAGES, MILESTONES, GOALS, CHECKS, SPEED

Broad stages (all requiring important input from the supervisor)
    application
    supervisor(s) appointed
    candidature starts
    consultations / supervising sessions
various checkpoints
final revision
submission
examination
corrections/revisions
graduation
post graduation ... ?

PEOPLE QUESTIONS ABOUT THE STAGES:
1. who sets the tempo / goals / frequency of meetings / submissions?
2. who sets the milestones?
3. what to do with setbacks?

APPLICATION
Regular meetings, probably less often as work progresses
Flexible, but don't lose contact or momentum
Things to anchor the work
  meetings
  goals and targets

Manage leisure and other-intellectual activities
Reward the worker!
READING AND WRITING

Reading
Read
  deep: topic area
  deep and broader: around it
  more widely - for
Problem of interdisciplinary / multimethod work
Reflect
User EndNote - use "Notes"
Write critical summaries - how it could fit in the
dissertation
Explore, especially in the first 6 months
Find and share excellent writing for
  content
  method
  theory
  argument
  style

Writing
Write early
Write often
  - avoid writer's block
  - accumulating stack of written material
    (ok, it will need editing / integrating, but ...)
Writing to think

Learn to type
  so that it isn't a barrier to thinking
TALKING, CONVERSING, PRESENTING, COMMUNICATING

Conversation inconsistent with the lonely scholar
 Cultivate talk, conversation, discourse
   with supervisor(s), other staff, peers, students in other disciplines
   (John Seely Brown)

Social networking - on campus and virtual
Student work groups
Morning tea, lunch, events, barbecues
Community, community of practice (COP)

Seminars
Present once a semester
Attend ± all (requirement)
3-minute PhD proposal

Conferences
Year 1: attend
Year 2: participate in discussion group, e.g. student poster presentations
Year 3: present paper

Using email, blogs, twitter ... 
blog / website for social interchange, sharing, publicity
webpages for students

Milestones
Annual? Mid-candidature?
Present state of work + write 5,000 words + interview

ACTIVITY #2

Prepare for 3 minutes.
Speak for 2 minutes maximum - present a project
  What
  Why
  How
  Whither
KEEPING THINGS FRESH: VARIETY (INSIDE STRUCTURE)

Most students aren't good at variation, feel uncertain / guilty.

Keep the research experience
  fresh
  self-renewing
  outreach / centrifugal
  centripetal

Violon d'Ingres
Physical exercise
Mental diversion

As a supervisor, occasionally be unpredicted.
  coffee
  ask students to a concert
  surprise visitor
PROFESSIONAL APPRENTICESHIP

Enprofessionalization
   Enculturation, acculturation
   Mentoring

Scaffolding
Apprenticeship, legitimate peripheral participation
(Humanities ≠ laboratory sciences)

Problem:
   knowledge is becoming increasingly specialized
   takes longer to acquire
   so
   how to avoid silos / balkanization of knowledge?

KNOWLEDGE: DEEP AND WIDE

INDIVIDUAL

Research and researching
Problematize
Methodology
Investigation
Writeup
Evaluation (self-evaluation, assessing the work of others)

Teaching
Tutoring
Lecturing ...
Marking, Evaluation
Curriculum
Pedagogy

Managing, planning, policy
Include student in
   curriculum and course groups / discussions
   research committee
   supervision, evaluation, quality control,
   NOT them and us ...
SOCIAL / COLLABORATIVE

Community of scholars (peers, other students, professionals)

Participation in research groups  
research community

Collaborative research, publication (with supervisor?)

Participate in seminars (organize, deliver, feedback and evaluation)

Organize a conference (Rhizomes)

PREPARATION FOR EMPLOYMENT

(a) people like academics (how many jobs?)
(b) wider education sector
(c) wider public sector
(d) private sector

What does a PhD say about preparation for these jobs?
knowledge
skills
metaknowledge - how to search and evaluate knowledge
metaskills - how to search and evaluate skills

And NB (below)
universities are changing
the employment landscape is changing
the PhD is changing

PREPARATION FOR PUBLIC LIFE
Role of public intellectual
SAVING THE SUPERVISOR

Supervision = bottomless pit
Shared supervision adds up to more than 100%
  but exploit this relationship:
    joint meetings
    change roles

When is enough?
  Law of diminishing returns
  Rite of Passage principle
  Don't become a crutch
  Progressive removal of scaffolding,
    increase of apprentice: legitimate peripheral
    participation

Means
  Ration time, access (except in emergencies)
  Student should thrash somewhat, not too much (hard to
    know!)
  Provide guidance, not correction
    (problem with academic English?)
  Help students to learn to help themselves
    e.g. send them to read related papers on aspect x
    and write a critical appreciation of its
    relevance

Buddy system
Student supportive groups
Shared critique
Group discussions, sessions

  Reading groups, limited coursework (e.g. Qual/Quant
  methodology)

Co-presentation of papers
Co-writing of articles

Learn to say "no".
FUTURE DIRECTIONS

(a) The PhD is changing
Current models:
(a) N. American: (generalist degree, then)
coursework, then dissertation
(b) Europe, much of Asia: dissertation
Emerging models:
(c) Professional doctorate, professional work +
dissertation
   E.g. U. Sheffield, UK
   http://www.professionaldoctorates.com/
Need to
   fulfil needs of current market
   provide pre-training for likely needs in emerging
markets
NB Asian market needs may not be the same as US / UK /
Oceania
   (e.g. in relation to Academic English)

(b) Demands of PhD students are changing
Distance mode study or mixed on-campus/distance
Mixed part-time / full-time
Upgrading existing staff / training for new students
(potential future staff)

(c) Universities are changing
Research-intensive moving to 60:40 research:undergraduate
enrolments
> implications for languages, linguistics

(d) Research skill-sets are changing
Not just IQ (domain expertise), or even EQ and CQ, but
meta-expertise: lateral, cross-disciplinary, multiple-
view thinking;
problem solving
creativity and originality

(e) Supervisor < > student relationships are changing
Less master:apprentice.
Students are co-creators of knowledge.

(f) Employment expectations for PhDs are changing
Many of the jobs in 2020 haven't been invented yet.
In IT, key skills sets change every 3 years (John Seely
Brown)
So how to prepare our students?
(g) John Seely Brown:

IQ
EQ = emotional intelligence, relationships
CQ = communication, persuasiveness

The power of pull

"Minds on fire" (on the Web) - much material borrowed from this:

The world has become increasingly “flat,” as Tom Friedman has shown. Thanks to massive improvements in communications and transportation, virtually any place on earth can be connected to markets anywhere else on earth and can become globally competitive.¹ But at the same time that the world has become flatter, it has also become “spikier”: the places that are globally competitive are those that have robust local ecosystems of resources supporting innovation and productiveness.² A key part of any such ecosystem is a well-educated workforce with the requisite competitive skills. And in a rapidly changing world, these ecosystems must not only supply this workforce but also provide support for continuous learning and for the ongoing creation of new ideas and skills.

[...]

We are entering a world in which we all will have to acquire new knowledge and skills on an almost continuous basis.

Internet > Open Education Resources / Open Course Ware (MIT)
Access to material, tools, facilities, expertise
Learners > Researchers
Web 2.0 > communities of (research) practice
blurs line between
producers and consumers of knowledge
access to information and access to other people
Social learning:
social learning is based on the premise that our understanding of content is socially constructed through conversations about that content and through grounded interactions, especially with others, around problems or actions. The focus is not so much on what we are learning but on how we are learning.

Predictor of success in study: not a maths course...
Richard J. Light, of the Harvard Graduate School of Education, of students’ college/university experience. Light discovered that one of the strongest determinants
of students’ success in higher education—more important than the details of their instructors’ teaching styles—was their ability to form or participate in small study groups.

Cartesian: I think, therefore I am: knowledge = substance, pedagogy = method
Now: we participate, therefore we are

Learning to be = a full participant in the field
(remember: acculturation and research? apprenticeship and "legitimate peripheral participation")

Learning about ≠ learning to be
  social learning, collaborative, interactive
  needs social access + mentors
SUMMARY

What makes a good PhD supervisor?

John Seely Brown:
IQ: information
   (domain knowledge, theory, methodology, mechanics of research)
EQ: empathy
CQ: communication

NB different balances at different times with different people
   (quality, quantity)