Research Methodology: Lecture 3

Palash Sarkar

Applied Statistics Unit
Indian Statistical Institute, Kolkata
India
palash@isical.ac.in



Time and Effort Management



Time Management: General Notions

- Performing an activity requires a certain amount of time.
- Usually many activities are required to be performed.

Goal: management of available time of one or more persons for effective/efficient/creative/proper/... execution of one or more tasks.

- Management of personal time.
- Social network.
  - Time management by other persons affect your time management.
  - Your time management affects time management of other persons.



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Aspects of Time Management

- Reasonable estimates of time required for each activity.
  - Involves taking into account “other” issues.
- Planning and allocation.
  - Neither too tight nor too loose.
  - Robust: should be able to recover from minor disruptions.
- Prioritizing (rocks-in-container story).
  - Relation ‘is more important than’ is usually a partial order.
  - But, the order of execution imposes a linear order.
  - Personal and external priorities need not match and has to be balanced.
- More than one plan.
  - Long-term: first six months, then three months, then three months, ...
  - Short-term: for the next months.
  - Up to a deadline.



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Multi-Tasking

- Each broad task can usually be divided into sub-tasks.
- In many cases, there are inherent delays between sub-tasks.
- Makes sense to interleave the sub-tasks of different tasks.
  Task1: sub-task1a, sub-task1b, sub-task1c;
  Task2: sub-task2a, sub-task2b.

  sub-task1a, sub-task2a, sub-task1b, sub-task2b, sub-task1c.

- Ordering strategies:
  - Based on priorities.
  - Shortest job first; round-robin; queue; stack; ...

  Multi-tasking versus Sequential.
  - Pros: more efficient utilisation of available time.
  - Cons: complicated and could be more fragile.



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Execution of a Plan

Easier to make a plan that others will follow!

- Deadlines and goals.
  - Do something by so-and-so date.
  - Can be set by oneself or can be imposed by external conditions.
- Checkpoints: should be part of any time-plan.
  - Time points to stop and think.
  - Revise time-estimates.
  - Evaluate slips.
  - Incorporate self-correction mechanisms.
  - Adopt completely new plans.



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Time Management by a Researcher

Broad division of available time.

- Non-academic.
  - This component grows with time.
  - Unsatisfactory management of this component adversely affects academic works.
- Academic: should be significant.
  - Well-known adage:
    'to get something you have to give up something.'
- More academic time implies better/more research.
  - Relationship is not always linear.



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Division of Academic Tasks

- Reading and learning.
- Meetings and discussions.
- Thinking.
  - Difficult to assign time slots.
  - Overall plan should have sufficient looseness which would be padded out by thoughts.
- Writing, programming, experimenting.
- Teaching and giving presentations.
- Reviewing.
- Others: installing computers and softwares, emails, administration (filling-up forms), ...



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Effort Management

- Performing an activity requires a certain amount of effort.
- The type and extent of effort depends on the nature of the activity.
- Time and effort are not synonymous.
- Understanding issues related to effort is *crucial* to proper time management.



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Effort and Energy

Effort depends on energy.

- Physical energy.
  - Old view: unimportant for academic activity.
  - Present view: importance has arisen as part of general social awareness.
- Intellectual energy.
  - Observation.
  - Reading and absorption.
  - Writing and speaking.
  - Programming, experimenting.
  - Long calculations.
  - Thinking.
  - Creativity.
- Spiritual energy ...



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Energy Management Issues

- Intellectual energy gets drained out and can be replenished.
  - Drain out rate varies with task and person.
  - Replenishment is achieved in different ways by different persons.
- During time management, a healthy mix of high-energy and low-energy tasks can be useful.
- Nature of energy requirement and consumption is complex.
  - In some cases, *different* high-energy tasks can be done one after another.
  - Understanding and improving ones capability for different kinds of energy helps in improving effective energy utilisation.



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Role of Supervisor



What Does Doing a PhD Mean?

A skeletal structure.

- Building an academic background.
  - General: through general course work.
  - Specific: through directed reading.
- Solving a few problems.
  - Identifying problems.
  - Solving problems.
- Publishing a few papers.
  - Writing papers.
  - Submitting to journals and/or conferences.
  - Making presentations.
- Thesis.
  - Writing and/or revising a thesis.
  - Defending the thesis.



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Every PhD student has to have a supervisor.

Whether you like it or not!

- A supervisor supervises your *research work*.
  - Not any other aspect of your life!
- Broadly speaking a supervisor helps a student to move through the unknown terrain.
  - Expectations from a supervisor.
  - Expectations from a student.
- Choice of institute/subject.
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Depends on what you want from a supervisor.

- Intangible quantities.
  - Similar academic interests.
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  - A viewpoint about the subject.
  - Acquire the ability to carry out independent research.
- Tangible quantities.
  - A quick PhD.
  - Publications.
  - Good post-PhD placement.
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Expectations from a Student

- Commitment and motivation.

  'You can take the horse to the water, but, you cannot make it drink.'

- Drive/energy and enthusiasm.
- Basic understanding and ability.
- Willingness and ability to learn new things.
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Student-Supervisor Relation

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- Healthy collaborative research partnership.
- Long-lasting relationship.

- Caveat: things do not always turn out to be nice.



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