Presentation techniques & scientific writing

September 2016

Ocean University of China, Qingdao
OUC

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Overview (Sunday, 25th September - Thursday, 29th September 2016)

1. Introduction in presenting science
2. Rules on how to write
3. Guidelines on how to edit
4. Peer-review process
5. Rules and recommendations, summary and final examn

The Rules of the Game

Lectures & Tutorial:
Sunday 25th to 30th September 2016

(Laoshan Campus, R. 3205, Tuesday: R. 3506)

Lectures: 1:30-4:30 p.m.

Tutorial: 6:00-9:00 p.m.
Group work, discussion in the tutorial, working on papers and oral presentations

Examn:
Wednesday 28th September 2016: oral/written

I. Introduction in presenting science

25th September 2016, 1st Lecture

1. Introduction in presenting science

1. Why publishing?
2. Publishing what & when?
3. Who is target audience?
4. Why publish in journals?
5. Types of journals
6. Types of papers
7. Selecting a journal
8. Journal performance indicators
9. Challenges when publishing in journals
10. Basic writing rules
11. Define authorship
12. Set up a publishing strategy
13. Set up a paper plan
14. How to make time to write

1. Why publishing?

“If you are not writing for publications, you are writing a diary.”

(Martin, 2005)

Why publishing?

- communicate to international academic world
- contribute to academic progress
- academic currency
- quality control
- career development
- institutional budget & reputation
- boosts confidence

Writing & reading

“To understand why we write we must understand why we read.

The writer who understands why people read will understand how to write.”

(Martin, 2005)

Why reading?

- to update your knowledge in the field
- to get information/access to data/results
- to identify similar or contradicting findings
- to learn what others are doing
- personal interest/curiosity
- pleasure

Purpose of publishing

- main purpose: communication
- not to report how to spent research money
- write to be read = sharing knowledge
- writing & reading = creating knowledge
- works only if communicated successfully

Guidelines: motivation

- I want to tell others what I have done?
- I have to publish?
- I publish to build a career?
- I like writing & publishing?
- I want others to read my paper?
- I want others to cite me?
- I want to get feedback on my published paper?

Guidelines: motivation

- I want to publish as fast as possible?
- I am not in hurry but want a “safe” publication?
- I need the paper before a certain deadline?
- I look for the highest possible impact
- What else do you want to achieve with your paper?

Exercise 1 Write down your personal motivation why you want to publish a paper in a journal.

	No	Do not know/maybe	Yes
I want to tell others what I have done?			
I have to publish?			
I publish to build a career?			
I like writing and publishing?			
I want others to read my paper			
I want others to cite me?			

Exercise 1 Write down your personal motivation why you want to publish a paper in a journal.

	No	Do not know/maybe	Yes
I want to get feedback on my published paper?			
I want to publish as fast as possible?			
I am not in hurry but want a „safe“ publication?			
I need the paper before a certain deadline?			
I look for the highest possible impact?			

What else do you want to achieve with your paper?

2. Publishing what & when?

What to publishing?

- New knowledge
- New methods
- New theories
- New data
- Solutions to a problem
- Insights in research process & experiences

How to select a topic?

Crtieria:

- **answer to a research question?**
  (do not focus on a whole project)

- **something new/original?**
  (= has not been published peer – reviewed before)

- **international relevance?**
  (= application beyond context of your study)

How to find out?

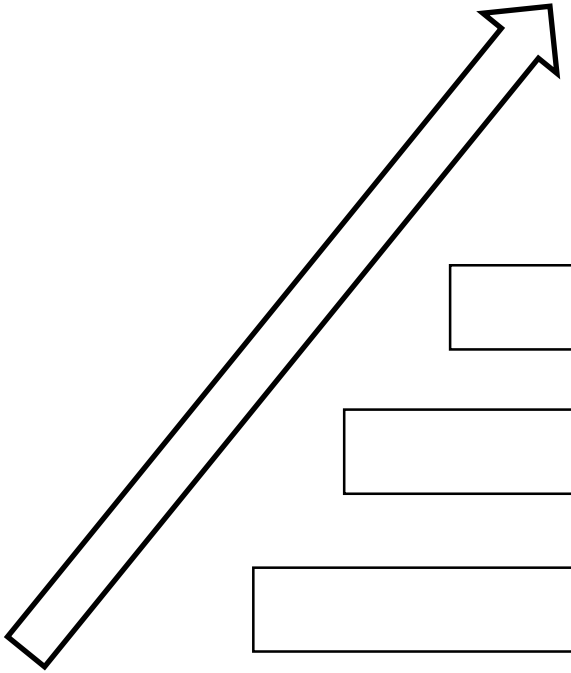
- Read project description
- Read the published literature in your field
- Identify highly debated topics
- Know the “open questions”
- Identify knowledge gaps
- Check what others have published on a topic
- Check what is relevant/for whom

When to publish?

Criteria:

- When research is **completed**
- **Never** submit a draft
- Always write & submit **your best work first**.
  (Don’t think I’ll safe this for a better paper” – it might never come.)

Step-by-step approach



write a journal paper

write a book chapter

write a conference paper

make a poster for a conference

prepare a paper for internal discussion

give a talk or seminar

Guidelines: select topic

- indentify something new/original
- make sure it is relevant beyond your study
- relevant for whom?
- focus on a research question, not a whole project
- define a knowledge gap that you fill
- check what else has been published
- start with your best work

Exercise 2:

What do you want to publish?

Draft ideas for one paper.

3. Who is target audience?

Why define audience?

- Communication needs an addressee
- The clearer the picture of the addressee, the easier the writing & to get it published!

Who is target audience?

- Research colleagues
- Academic community
- Students

May read peer-reviewed journal papers

- Pracitioners
- Policy-makers
- General public

May **not** read peer-reviewed journal papers

Guidelines: audience

Define target audience before starting to write:

- Who has interest in paper topic?
- Who is working in the same field?
- For whom is your paper most relevant?
- Whom do you lie to read your paper?
- Who are the 10 people/departments you want to make sure they get to know what you have done?
- Do they read int'l peer-reviewed journals

Exercise 3:

Who is the target audience for your paper?

4. Why publish in journals?

Scientific publications

Quality criteria:

Has it been **peer-reviewed** by experts or not?

⇒ Only journals have a standardised peer-review process (but not all)

Impact & ranking

Journal paper

Textbooks

Monograph

Edited Volume

Festschrift

PhD-Thesis

Report

Proceedings

Magazine

Abstract

Thesis

Online & CD

Why publish in journals?

- quality label
- research policy/funding favours journal papers
- wide accessibility
- int’l impact
- career development

5. Types of journals

Peer reviewed or not

	Peer-reviewed	Non peer-reviewed
pro	• quality control • reputation • ments • acessibility	• low risk • low threshold • easy to get
contra	• risk of rejection • threshold • several attemps • frustation	• low quality control • low reputation • less ment • limited distribution

Commercial journals

- majority of journals
- published by publishers/enterprises
- demand annual subscription
- individual papers can be purchased
- costumers: university/institute libraries

Society journal

- run by academic society
- no profit
- cooperate with commercial publishers
- low subscription fee for members

Open access journals

Open access (OA) journals are:

- digital
- online
- free of charge for readers
- free of most copyright and licsensing restrictions

Open access journals

- access to papers requries no subscription
- author maintains copyright
- authors does not receive royalties
- different cost model than commercial journals
- sometime charge authors

Open access journals

- since 1990s
- philosophy: reseach has been funded & should **not be paid twice** when published/accessed
- many different forms

Int'l peer reviewed journal

Criteria:

- presenting **latest research results**, scholarship, and discussions of existing knowledge,
- criteria-based **selection process** handled by an editorial office with the help of experts in the field,
- published in **English** by a professional publisher, an academic society or as open access journals

6. Types of papers

Research paper

- presents original/primary research
- answers a research question based on own research
- readers must be able to:
  - assess observations
  - repeat research design
  - evaluate intellectual process
- not published before
- most common type

Review paper

- presents state-of-the-art overview on the literature of a specific subject
- does not report on own research
- compiles most relevant literature on a subject
- can include about 50-100 key references
- of high value for other authors
- quoted often and therefore high esteem

Method paper

- reports on the development or testing of a new scientific method
- method is in the focus – not results that might be achieved with the method
- provides proof/application of method
- less common

Theory paper

- reports on the development or testing of a theory
- can also be theoretical discussion
- aims at advancement of theoretical understanding

Discussion paper

- discusses an important and relevant topic
- uses existing literature
- does not present own research results
- states author’s opinion
- opinion paper, reflective style
- often shorter than a research paper
- less common

Short communication

- also “research note”
- short research paper but less detailed
- published because findings are not sufficient for a full research paper
- not available for all journals

Letter

- mostly a response on a previous paper
- can be positive or critical reaction/comment on previously published findings
- an comment that could be of interest to journal community
- addressed to the editor
- short

Book review

- Short review of recently published book (not older than 2 years)
- describes subject, structure and main findings of the book
- book review is directed to potential colleagues who have an interest in the subject of the book
- will help the reader to decide on whether to read the book or not

Editorial

- editorial comment from the journal editor to journal readership and potential authors
- communicates new journal prioirities or editorial policies or may introduce new journal subjects
- sometimes invited guest editorials

Other paper types

- Opinions, comments, respones
- Case studies
- PhD thesis – summary
- Conference report
- Interviews

Guidelines: Paper type

Define your focus before start writing your paper.

- do you report new data/results?
- do you present a new method?
- do you provide overview on existing literature?
- do you contribute to theory development?
- do you discuss a certain problem/statement?

Exercise 4:

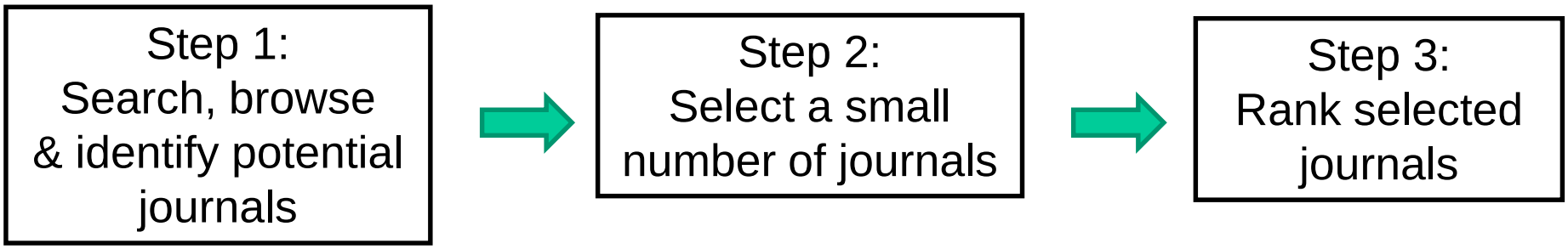
Identify your paper type.

Exercise 5:

Write down the names of journals in your field of research.

7. Selection a journal

How to select?



Step 1: Search

Which journals in your filed do you know?

- browse your shelves/library/Internet
- browse list of references of relevant papers
- check where others have published
- ask colleagues

Step 1: Search

Search in journal databases

- Scopus: www.scopus.com
- Genamics: www.journalsseek.net
- DOAJ: www.doaj.org
- JSTOR: www.jsor.org
- Ingenta: www.ingentaconnect.com
- Web of knowledge: www.isiwebofknowledge.com

Step 2: Select

Check for all journals on your list:

- published papers on same/similar keywords
- read aims & scope
- browse journal issues/volumes for paper subjects
- read papers in recent issues
- browse editor & editorial board
- read recent editorials

Step 2: Select

Check for the journals on your list:

- How often are journal issues published per year?
- Are papers in press online accessible?
- Does journal have an impact factor?
- Is impact factor relevant for me?
- Is journal online accessible?

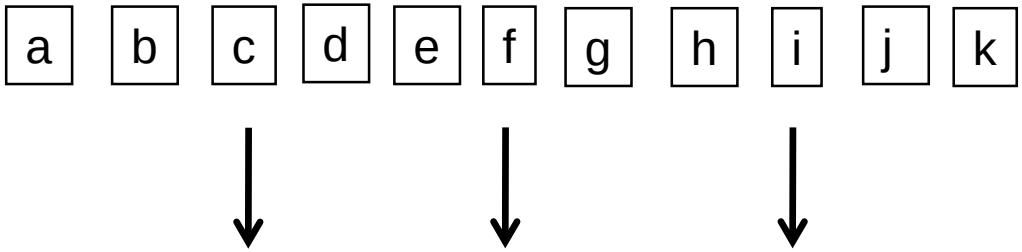
Step 3: Rank

Choose 3 journals with best scores & rank them

- For which journal is my paper most relevant?
- What journal reads my target audience most?
- Rank: 1 to submit, 2 as backup

3 steps to find journal

1, identify & browse

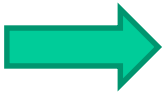


2, select

3, rank

Guidelines: find journal

1. Where is your **key literature** published?
2. What journals are listed in **reference** list?
3. What journals read your **colleagues**?
4. What journals reads your **audience**?
5. Where are papers **similar** to yours published?



Make list of journals

Guidelines: find journal

6. What is publication **frequency** and production time?
7. What is the **performance**, impact and reputation of a journal?
8. What can be learned from **aims & scope**?
9. Who is on the **editorial board**?

Guidelines: find a journal

10. **Study** journals, browse volumes, read papers
11. Select **3 potential** journals
12. **Rank** them (1 for submission, 2 alternatives)
13. It is worth **spending time** to identify the right journal for your manuscript!

Exercise 6:

Write down the names of 3 journals which are nost suitable for your paper.

8. Journal performance indicators

Performance indicators?

- a numerical measure to determine performance of a journal
- used to assess quality, reputation and usage of a journal over time
- can help to identify the right journal

Most important indicators

#1, Citation index

#2, Journal impact factor

#3, Perceived quality & reputation of journal

#4, User behaviour

#1: Citation Index

- tracks citations from one to another paper
- which journal paper cites which other paper
- e.g.:
  Article A by author B is cited X times in other papers since being published

#1: Citation Index

- the more citations = the more important
- indicates that other authors are using/referring to “your” paper
- Citation Index available for papers and journals
- Web of Science by the Institute for Scientific Information (ISI)

#2: Impact factor (= IF)

IF = measures the **average number of times** articles in a journal published in the past two years have been cited in a particular year

(= the year of the Journal Citation Report)

#2: Impact factor (= IF)

- most frequently used performance indicator for assessing quality of a journal
- important for deciding where to publish
- measured by ISI
- 2-year period
- IF 2008 is based on 2006 and 2007
- Published in Journal Citation Report (JCR)

#2: IF - Definition

Number of current year citations to (papers published in) a journal over a period of 2 years

devided by

The **number** of all **papers** published in this journal during the same 2 years.

(ISI 1994)

#2: Impact factor

- varies by:
- subject area/discipline
- journal type
- journal size
- citation window
- over time

#2: What IF can tell

- what journals are cited most frequently
- how prominent is a journal

#2: What IF cannot tell

- quality of individual papers or authors
- should not be the only criteria to assess/select a journal
- should not compare IF of journals across subject areas/disciplines
- small differences (less than 25%) are meaningless

#2: Why not ignore IF?

- standard measurement
- key criteria for universities and institutes to measure the quality and impact of their research
- can be criteria for promotion/employment
- high impact factor = high reputation

#3: Quality & reputation

Highly recognised journals:

- Science (IF 2008: 28.103)
- Nature (IF 2008: 31.434)
- Lancet (IF 2008: 28.409)

#4: User behaviour

- Electronic/online-journals allow to measure user behaviour:
  - access data
  - downloads

Guidelines: perform.indic.

How to find out?

- **Impact Factor**: ISI Journal Citation Report + Journal websites
- **Citation Index**: Web of Science + Scopus
- **User behaviour**: Publisher + Editorial Office
- **Reputation**: Colleagues

9. Challenges when publishing in journals

#1: High expectations

- publish in high ranked journals
- research funds allocated according to publishing output
- some countries/universities: 1-3 papers per year (per researcher)
- expected that any project can publish in journals

#2: High competition

- more authors
- more research projects
- increasing pressure
- limited journal space
- shorter papers

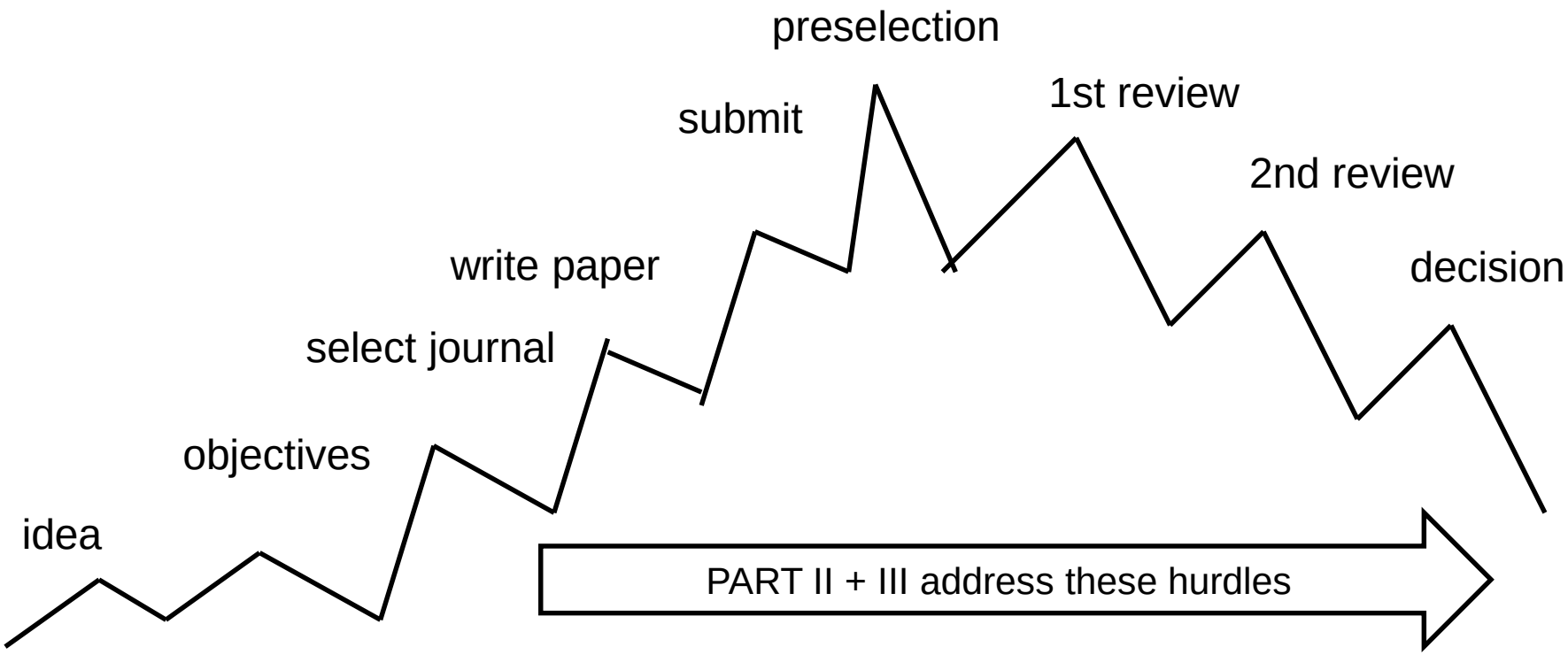
#3. Problem

- Scientific output is not equally distributed across the available journals
- Prestigious journals are preferred

3. Consequence

Prestigious journals	Other journals
High competition	Low competition
Very little space	More space
High rejection rate	Lower rejection rate

4. Hurdles


preselection
submit
1st review
2nd review
write paper
decision
select journal
objectives
idea
PART II + III address these hurdles

10. Basic writing rules

Rule #1: write daily

Plan for writing daily

- take enough time for the writing process
- set clear writing goals for each writing session
- write 30 minutes each day, don’t wait for big blocks of time, they are hard to find!

Rule #2: draft

Draft & review thoughts before writing

- Write down thoughts about a potential publication as they arise
- Note any idea while the study is still in progress
- Draft & structure a section before you start writing

Rule #3: brevity

Brevity

- applies to all writing
- say it with less words
- it saves publication space, costs & reading time
- increased chance to be read
- most difficult

Rule #4: read

Read other papers

- you write to be read
- reading helps to be better writer
- learn the style of writing of your community

Rule #5: logic

logic & clarity

- readers need to follow your argumentation step by step
- say what you aimed at, how you did it, what you achieved and what this means
- say it as clear and simple as possible

Rule #6: key message

organize around key sentences

- each paragraph should have one key message (= key sentence)
- key message goes in the first part of the paragraph, the rest supports the key sentence
- always check whether all sentences in a paragraph relate to the key sentence

Rule #7: organize

structure your paper

- paper is not a novel and not read from page 1-15
- structure allows reader to read your work selectively

Rule #8: clean

clean & attractive presentation

- don’t assume if your work is good, sound science, it will be accepted for publication, regardless how it looks
- manuscript needs to look carefully prepared, otherwise it will not even be considered
- editors & referees see correlation between poorly prepared manuscripts & poor science

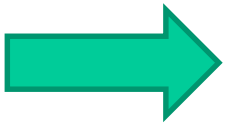
11. Define authorship

Criteria authorship

- has contributed to the research
- has written parts of the manuscript
- has reviewed successive manuscript versions
- has taken part in the revision process
- (has secured funds for the research)

Criteria co-authors

- scientifically contributed to the work/paper (data collecting, analysis, securing funding or other support) or
- written parts of the paper



acknowledge other people

Criteria for authorship

- What is a significant contribution to a manuscript?
- work that produced new information, which is original scientific knowledge
- technician/lab assistant doing the physical work without contributing to the intellectual progress should be acknowledged

Authorship credits

- first author receives **most** of the credits
- Authors should be listed in **order of importance** of their contribution
- If multiple authors contributed **equally**:
  - consider rotation of first authorship
  - include contributors list at the end of manuscript that describes role of co-authors
  - prepare author declaration

Authorship & PhD students

- students & supervisors should **discuss** authorship openly
- student's name should **always** appear on work derived from student's written work or data collected for thesis
- students should not feel pressurised to include supervisor in all papers

Suggestion for co-authorship:

- first paper: supervisor goes first
- second paper: PhD student goes first
- third and following papers: only PhD student

What to avoid

- Starting to write or finish a manuscript without defining first author & order of co-authors

Author responsibilities

First author: takes lead in writing the paper

Co-authors: contribute meaningfully

Corresponding author: has contact with editor, publisher and potential readers

All authors: agree with submission and are responsible for content

If conflicts arise

- talk to colleague/friend/advisor
- read publishing ethics guidelines
- discuss with co-authors

Exercise 7:

Who will be author/co-author of your paper?

Why?

In which order?

12. Set up a publishing strategy

What is it?

a document where you define your publishing ambitions and objectives on the level of

- a project
- a team
- an individual

What are the benefits?

- helps to define publishing ambitions
- helps to get organised
- make targets explicit
- makes responsibilities explicit
- gives more control over our work
- increases your output
- sets realistic expectations

Decisions to take

- Why do I want to publish?
- What can be published?
- How many papers would I like to write?
- On what topics?
- Who is my audience?

Decisions to take

- What type of papers?
- What journals?
- Will I have co-authors? Whom?
- What tasks/responsibility do they have?
- When would I like to be finished?

Publishing strategy

- write down your main objectives
- include your time table
- inform, consult & discuss with co-authors/project partners
- print and set up on the wall

Exercise 8:

Set up your own publishing strategy following the guidelines in this module. Draft

a, an overall output plan

b, an overall time plan

13. Set up a paper plan

What are the benefits?

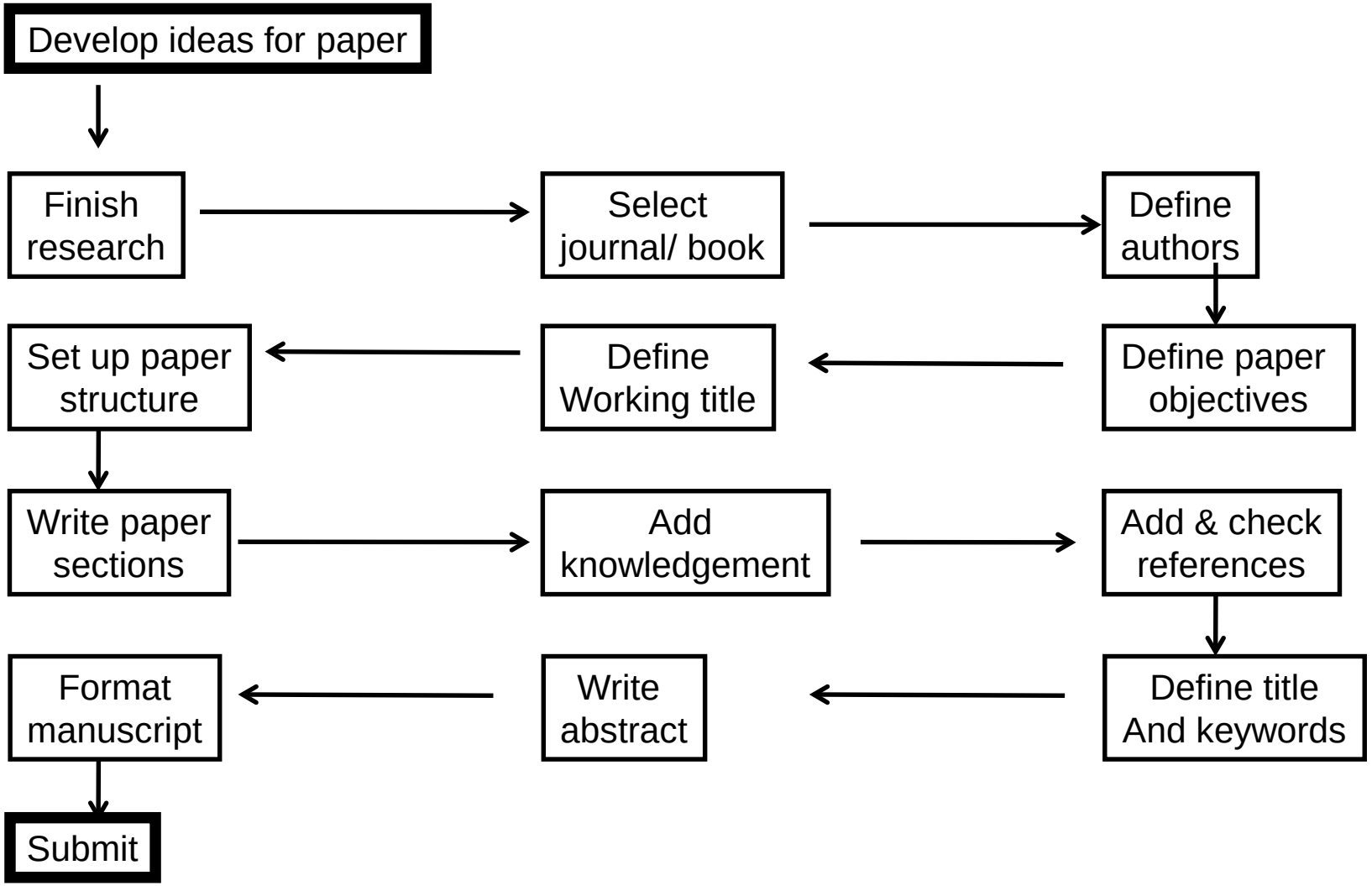
- set up for an individual paper
- provides overview on the single steps to release this paper
- helps to structure the concrete working progress
- increases paper quality
- increases efficiency

Decisions to take

- What will the paper be about?
- Is the research related to this paper completed?
- What type of paper will it be?
- What journal?

Roadmap

Highlights the main steps in the process of preparing and writing a paper



Exercise 9:

Draft a paper plan for one specific paper.

Part 1

Paper Topic	
Paper Type	
Journal	
Co-authors	
Who (order)	

Part 2

START	
SUBMISSION	
1, find journal	
2, write paper sections	
3, edit paper	
4, feedback colleagues	
5, obtain permissions	
6, language check	
7, final revision	

Part 3

Step	Section	Authors	Deadline	Status
1				
2				
3				
4				
5				
6				
7				
8				

Part 4

Step	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
1									
2									
3									
4									
5									
6									
7									
8									

14. How to make time to write?

1# Writing: a prime task

- produces output
- you are evaluated according to your production of output
- is a key task for a researcher
- not an add-on for the weekend or long nights
- your line-manger knows

#2 Write daily

- the big block of free time never comes
- output of daily writers is higher
- becomes a routine
- lower threshold – less far
- feeling a success

#3 Small steps

- set small realistic writing tasks for each day
- 15, 20 or 30 minutes per day – whatever suits best

#3 Small steps

Small tasks for daily writing sessions:

- Search for relevant journals
- Read other papers
- Search for references
- Talk to co-authors
- Write short paragraph, objectives, definitions
- Describe on methodological step
- Revise a paragraph

#4 Avoid disturbance

Escape from external disturbance:

- block time in your calendar
- close door
- no e-mail, no phone
- write at home

Avoid internal disturbance:

- plan your day the night before
- arrange a fixed time for writing
- do not plan for meetings that clash with your writing
- do not search for excuses

Exercise 10:

Identify writing time in your calendar for the next two weeks.

Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
8:00					
9:00					
10:00					
11:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					
18:00					
19:00					