

Research Foundations in Computer Science

Unit VII

Writing Your Research Proposal

Dr. M.A. Shreyegan

Review of Previous Weeks

- The concept of research
- Importance of research
- Finding previous research
- Finding current research
- Reviewing the literature
- Identifying a research problem
- Developing research objectives
- Identifying potential research methods

Where you should be

- ✓ Identified an area of research
- ✓ Compiled a preliminary bibliography of published materials related to your research area
- ✓ Analyzed the literature on your area of research
- ✓ Identified a research problem to be addressed
- ✓ Set objectives for your research project
- ✓ Drafted the first section of your research proposal
- ✓ Drafted the methodology section of your research proposal

Outline for Today

The Research Proposal

- 1) What is a research proposal**
- 2) Why write a research proposal**
- 3) How to write a research proposal**
- 4) Writing a good proposal**
- 5) Contents of a research proposal**
- 6) Order of writing a research proposal**
- 7) Assessing a research proposal**
- 8) Shortcomings of research proposals**

1) What is a research proposal

- The what, why and how you want to carry out your research project**
- A detailed description of the procedures that will be used to investigate your topic or problem**
- A document to convince others for the need for the project, the ability to carry it out, and a work plan**
- Contains extensive literature review**

2) Why write a research proposal

- A plan for what you want to do

- The first stage of your research

A journey of a thousand miles begins with one step

- A 'contract' with your Supervisor

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3) How to write a research proposal?

– A good proposal covers four main issues – **A, B, C, D:**

- **Aims of research :**

- ✓ What am I going to do in my research? (Objectives of research)

- **Basis of research :**

- ✓ Why am I doing this research? (Importance of research)

- ✓ Who else has done research like this? And, what did they do? (literature Review)

- ✓ How is my research different from the others?

- **Contributions (Significance) of research :**

- ✓ Why will this research be significant to the academic community?

- **Design of research : (Research Methodology)**

- ✓ How am I going to do this research?

- ✓ How am I going to build a system?

- ✓ What tools am I going to use to build it?

- ✓ What will be the evidence as to whether it is a good system?

4) Writing a good proposal

- Ask lots of people (colleagues, friends, ...) to help you for improving your proposal.**
- Listen to what they say.**
- If they cannot understand, re-write.**
- Ask them to read within 10-15 minutes for the first time, and tell you what they think; most potential supervisors will spend less time than that.**

4) Writing a good proposal (Cont.)

- Start today !
- Work on it every day, even if it is just 15 minutes a day.
- Read widely, especially research literature
- Set small, specific, achievable goals to achieve
- Write well (i.e. follow the rules of good writing)
 - no spelling mistakes,
 - good grammar,
 - one idea per paragraph,
 - ...

5) Contents of a research proposal

فرم شماره 10
(درخواست تصویب موضوع پایان نامه)

Dr. M.A. Shafayeghan

تذکر :

برای مطالب بیشتر ،

حتما فصل سوم فایل روش تحقیق ،

صفحات 18 الی 35

تهیه شده توسط آقای دکتر تهور را مطالعه نمایید.

6) (Suggested) Order of Writing a Research Proposal

- ✓ Develop outline of proposal
- ✓ Compile bibliography
- ✓ Select relevant items from bibliography
- ✓ Read and make notes for ideas, problem statement, objectives, methodology, findings, key works
- ✓ Write draft problem statement
- ✓ Write objectives
- ✓ Write Literature Review chapter, and References
- ✓ Write Methodology chapter
- ✓ Write Introduction chapter
- Write Abstract
- Prepare End Materials
- Update References
- Review and revise
- Submit to peer(s) for review
- Revise and submit to Supervisor

7) Assessing a Research Proposal

- Questions in assessing a research proposal
 - Is it a research problem, or is it just a routine application of known techniques?
 - Does the proposal address a well-formulated problem?
 - Is it an important problem, whose solution will have useful effects?
 - Does the proposal explain clearly what work will be done?
 - Is there evidence that the researcher knows about the work that others have done on the problem?

8) Shortcomings of research proposals

- It is not clear what problem is being addressed by the proposal
- It is not clear how problem is being addressed by the proposal
- It is not clear why the problem is worth addressing
- The project is just a routine application of known techniques
- A new idea is claimed but few details of the idea are given
- The proposer seems unaware of related research
- The proposed research has already been done
- The proposal seems to be attempting to do too much
- The proposal requires too many resources to implement
- The proposal is badly presented

Assignment 9 :

Draft of Research Proposal

Objective:

To integrate the various sections into a draft research proposal (آماده کردن فرم شماره 10)

Approach:

Combine information from earlier assignments , adding and updating where necessary, to form a complete draft of the research proposal