RESEARCH PROPOSAL

WRITING A RESEARCH PROPOSAL

A research proposal is similar in a number of ways to a project proposal; however, a research proposal addresses a particular project : academic or scientific research.

Research proposals contain extensive literature reviews and must offer convincing support of need for the research study being proposed.

ELEMENTS OF A RESEARCH PROPOSAL

1. title

2. abstract

3. study problem

4. research question

5. rationale/ relevance of the project

6. specific study objectives

7. research methods

   i. study design

   ii. Sample

   iii. Data collection

   iv. Statistical consideration

8. ethical consideration

   i. consent form

   ii. Privacy of information

ELEMENTS OF A TECHNICAL PROJECT PROPOSAL

1. Introduction
   1.1. Problem Statement
   1.2 Background
   1.3 Needs statement
   1.4 Objective
2. Proposed Technical Approach
   2.1 Requirements
   2.2 Architecture Design
   2.3 Implementation Design
   2.4 Quality Assurance Plan
3. Expected Project Results
   3.1 Measures of Success
4. Schedule

1. TITLE

➢Precise

➢Informative

➢Succinct

➢Interesting

➢Improving Semantic Concept Detection through the Dictionary of Visually-distinct Elements

➢Human Action Recognition across Datasets by Foreground-weighted Histogram Decomposition

➢ICT-supported pedagogical policies and practices in South Africa and Chile: emerging economies and realities

ABSTRACT

It's a brief summarizing statement, usually 75-150 words long

An abstract includes these elements:

1. problem

2. method

3. result

4. conclusion

There are two kinds of abstracts:

<u>Descriptive</u>

Its written before the project is completed.

Emphasis is on the problem and the method.

<u>Informative</u>

Written after the project has been completed

Care is given to the results and conclusions

A SAMPLE FOR DESCRIPTIVE ABSTRACT

The pressure distribution in the model vacuum system consisting of several volumes, pumps and gas sources was calculated using the analytical solutions of corresponding differential equations. The results were incorporated into the recently developed algorithm for similar calculations developed in FLNR~JINR Dubna, to enhance its precision. A modified code was then used to calculate the pressure distribution over the linear ion accelerator of FEI~STU. Several possibilities how to improve the vacuum conditions in the accelerator system are proposed.

A SAMPLE INFORMATIVE ABSTRACT

Subjects' car clocks were set ten minutes fast in order to determine if deliberately setting a clock ahead will reduce lateness. One group of subjects knew their clocks had been set ahead, while a second group of subjects was not informed of the change. Over a four-week period, the subjects who were aware of the clock change regularly arrived on time or late for their scheduled appointments. Over the same period of time, the subjects who were unaware of the clock change tended to arrive early or on time for their appointments. Data suggest that intentionally setting a clock to run fast does not reduce lateness because one accounts for that extra time in his or her schedule.

TENSE USE

IN THE ABSTRACT

type of information	verb form (tense or commonly occurring verbs)	examples
giving background details	present tense	*The industry is already well known for its efforts to improve the eco-efficiency of its processes*
describing the research activity	simple past tense, present perfect tense	*The study focused on 2 main areas* *The framework for life cycle analysis has been developed*
describing the methods	simple past tense (active or passive)	*We carried out a series of field tests* *A large number of samples were tested for fracturing*
reporting results	simple past tense	*Results indicated that the problem is even more serious than previously predicted* *The third model proved to be more durable than the other four*

stating conclusions	present tense verbs indicating tentativeness : - is possible - is likely - appears - seems - might modal auxiliary verbs - can - may - could - might	*This indicates that there are, in fact, several factors contributing to the decrease* *It appears that the incidence of human error cannot be eliminated at any stage* *There might be a need for revising the list of criteria within the next 5-10 years*

STUDY PROBLEM

Health care issue that is a concern or a problem

Implementation of computer technology in an institute

HYPOTHESIS/RESEARCH QUESTION

Research question.

A research question is the question that the research project sets out to answer.

In actual fact, a research study may set out to answer several questions.

The methodology used for that study, and the tools used to conduct the research, all depend upon the research questions being asked.

For example, in the example of a qualitative research study, the following two research questions that underpin the study, and also needed to be answered by the study, are shown in the box below.

There are two research questions that will need to be answered by this phase of the research.

These are:

- *'Are the perceived needs of the patients and users of South Bedfordshire's palliative care services being met?'*
- *'If not, what needs to be done if these needs are to be met in the future?'*

The first question can be answered by a quantitative study, whereas the second one may require a qualitative study to answer it.

Research questions can therefore be used in quantitative and qualitative research studies.

HYPOTHESIS (PLURAL = HYPOTHESES)

A hypothesis is not a question, but rather it is a statement about the relationship between two or more variables.

So, for example, the first question could become a hypothesis by making this a statement rather than a question, namely:

The perceived needs of the patient and users of South Bedfordshire's palliative care services are being met.

A hypothesis must include 3 components:

The variables

The population

The relationship between the variables

RESEARCH PURPOSE

A Statement of Purpose is a sentence that you write, which states, in some detail, what you want to learn about in your research project. The statement guides you as you work so that you will read and take notes only on what's needed for your project. Broad statement indicating the goals of the project.

Different types of purposes may include:

1. Exploration
2. Description
3. Explanation
4. Prediction/ control

To write the sentence, first answer these questions for yourself as best as you can:

1. What is my real personal interest in the topic?
(There will always be something that can interest you)

2. What do I specifically want to learn about my topic?
(Don't overwhelm yourself with too many things. Two or three are plenty.)

For example: One person was very concerned about air pollution and wanted to know if the government is doing anything to stop it.

Her Statement of Purpose was this: **I want to learn about what is being done by our government to stop air pollution.**

This Statement of Purpose will lead her to eventually write a Thesis Statement in which she will be able to make an assertion (a statement she can defend) and support it with the evidence she has gathered in her research.

Her Thesis Statement may sound something like this:

"In the United States, government regulation plays an important role in the fight against air pollution." Or, conversely, "United States government regulation has little effect in the fight against air pollution."

Whichever the case, she will use the evidence she has gathered in her research to prove her Thesis Statement.

Make sure your Statement of Purpose is specific enough.

A Bit Too General	Much Better, More Specific
"I want to learn about the Dalai Lama."	"I want to know what role the Dalai Lama plays as the spiritual leader of the Tibetan people."
"I want to learn about AIDS."	"I want to know how close we are to a cure for AIDS."
"I want to know about pro basketball."	"I want to know what it takes to be a professional basketball player."
"I want to find out about the Marshall Plan"	"I want to know if the Marshall Plan still has any effect on the world's economy."

CREATING A PURPOSE STATEMENT

1. Clearly define your **study** as quantitative or qualitative.

2. Use words to clarify your intent like "explore" or "compare."

3. Clearly define how the **research** will take place.

4. Discuss who or what will be researched.

5. Clarify where the **research** will take place.

PSYCHOLOGY

The present article describes a qualitative study of the career development of 18 prominent, highly achieving African American Black and White women in the United States across eight occupational fields. Our aim in the study was to explore critical influences on the career development of these women, particularly those related to their attainment of professional success.

BIOLOGY

The purpose of this qualitative study is to discover four genetic factors of aggression of female lions in the Atlanta zoo. The study aims to understand critical influences that affect this aggression through DNA analysis.

SOCIOLOGY

This study had two purposes: (a) to examine the possible predicting abilities of socioeconomic status, per pupil expenditures, percentage of highly qualified teachers and attendance rates for on-time educational attainment in the state of Virginia and (b) to compare the Appalachian School Divisions of Virginia with the non-Appalachian school divisions for each of these variables.

CHEMISTRY

The purpose of this study is to evaluate a relationship that might exist between oxidative balance and clinical features of PKU and MSUD patients in a South Alabama research facility. The oxidative DNA damage markers and amino acid plasma of 20 controls, 22 MSUD and 40 PKU patients were measured.

THESIS STATEMENT

A thesis statement is a strong statement that you can prove with evidence. It is not a simple statement of fact. A thesis statement should be the product of your own critical thinking *after* you have done some research. Your thesis statement will be the main idea of your entire project. It can also be thought of as the *angle* or *point of view* from which you present your material.

How to write it?

- Look again at your Statement of Purpose

- Look at the kinds of information you have been finding while taking notes.

- Decide what kind of statement you have enough evidence to prove.
  (Be sure that you have done enough research to make a strong argument. You may be challenged.)

- Write that as your thesis statement.

Statement of Purpose	Possible thesis statement
want to know how close we are to a cure for AIDS."	Although much research has gone into finding a cure for the AIDS virus, we are no closer to a real cure than we were when the disease first became known. Or After years of research , scientists are on the verge of discovering a cure for the AIDS virus.
"I want to know why Christians and Muslims fought so hard with each other during the middle ages."	Even though Christians and Muslims were supposedly fighting for religious dominance in the medieval world, their motives were strongly affected by the desire for land and economic power. Or Medieval Christians and Muslims were fighting exclusively for deeply held religious beliefs.

Sample purpose and thesis statements

The following example combines a purpose statement and a thesis statement (bold).

The goal of this paper is to examine the effects of Chile's agrarian reform on the lives of rural peasants. The nature of the topic dictates the use of both a chronological and a comparative analysis of peasant lives at various points during the reform period. . . **The Chilean reform example provides evidence that land distribution is an essential component of both the improvement of peasant conditions and the development of a democratic society. More extensive and enduring reforms would likely have allowed Chile the opportunity to further expand these horizons.**

Examples of Ineffective Purpose Statements:

(1) "The purpose of this paper is to describe the changes that are occurring in corporate America."

Critique: too vague and broad. No clear expectation of what the reader will learn. *Questions:* What specific changes in corporate America will be described? What types of changes? What aspects of corporate America will be discussed? Will this paper also discuss the effects of these changes?

(2) "The purpose of this report is to discuss the eating disorders Anorexia and Bulimia."

Critique: too vague and broad. It is not clear what aspect of these disorders will be discussed, or what the reader will learn. *Questions:* What specific aspects of these eating disorders will be discussed? The causes of these disorders? The signs or symptoms of these disorders? The effects of these disorders? If so, what types of effects - physical, emotional, psychological?

(3) "This article will cover the different ways a company can become organized."

Critique: obscure and misleading. It is not clear what is meant by "different ways" or "become organized." These terms are vaguely stated and ambiguous. *Questions:* What is meant by "different ways" and "become organized"? What, specifically, will the reader learn about companies and how they become organized? Any specific types of organization? Any specific types of companies?

Examples of effective purpose statements:

(1) "This paper will describe four common causes of co-worker conflict in organizations and explain how to use a five-step procedure to constructively manage this conflict."

Critique: Very specific about what aspects of conflict will be discussed. Very precise about how much information will be given. Very clear about what the reader will learn.

(2) "This report will explain how supervisors can use four planning strategies to improve employee productivity in the workplace."

Critique: Very specific about what will be discussed (planning strategies), and what the outcome will be for the reader (how to improve employee productivity).

(3) "The purpose of this report is to describe the main causes of traffic congestion in Seattle."

Critique: Leaves no doubt about the report's main purpose. Specific about the focus of the traffic congestion (Seattle).

Exercise: For the following research problems, try to generate specific purpose statements.

1. How can heat loss be prevented in a two-storey brick house?

2. How are writing skills taught in the secondary section of government schools?

3. why did the coliseum roof collapse?

4. How can the overeating of non vegetarian food affect a person's spirituality?

5. What are the factors behind the increasing criminal activities in Karachi?

STUDY RATIONALE

In this section, you are arguing why your study should be done. Be sure to explain how you study fits into those areas.

Ask yourself:

1. Will this study generate new knowledge?

2. Will the study benefit society, advance understanding or influence policy?

3. Will the study fill gaps in existing knowledge or resolve current controversies?

Generally a study should do more than just generate new knowledge. The knowledge should in some way be useful, either by leading to a tangible benefit such as improved patient care, or a less tangible one such as addressing an area of controversy

7. RESEARCH METHODS

i. study design

ii. Sample

iii. Data collection

iv. Statistical consideration

8. ETHICAL CONSIDERATION

i. consent form

ii. Privacy of information

IMPORTANT SITES FOR WRITING RESEARCH PAPERS

http://www.phrasebank.manchester.ac.uk/

http://www.digitallibrary.edu.pk/

https://sites.google.com/a/nu.edu.pk/national-university-of-computer-emerging-sciences-fast-library/

http://digitallibrary.edu.pk/natunicomp_emrgsc.html

https://www.proquest.com/

https://sci-hub.do/

RESEARCH PROJECT PROPOSAL FORM

Group Members:_____

Venue: _____

Research Problem: Derive a problem from a paper from the *Journal of Computer Assisted Learning*

Research Question/ Hypothesis: _____

Purpose: _____

Relevance and Benefits of the study: _____

Literature Review:

_____

_____

Research Methodology:_____

PROJECT MILESTONES

1. Proposal Submission: 5th April

2. Literature Review Submission: 12th April

3. Introduction and Questionnaire: 29th April

4. Result: 3rd May

5. Conclusion: 10th May

6. Project Submission and Presentation: 24th-28th May

Find a problem from the journal of Computer Assisted Learning:

https://onlinelibrary.wiley.com/journal/13652729