

Writing the research proposal

Research proposals serve many purposes ...

THINK through your experiments

Outline steps in your proposed research

Provide intellectual context

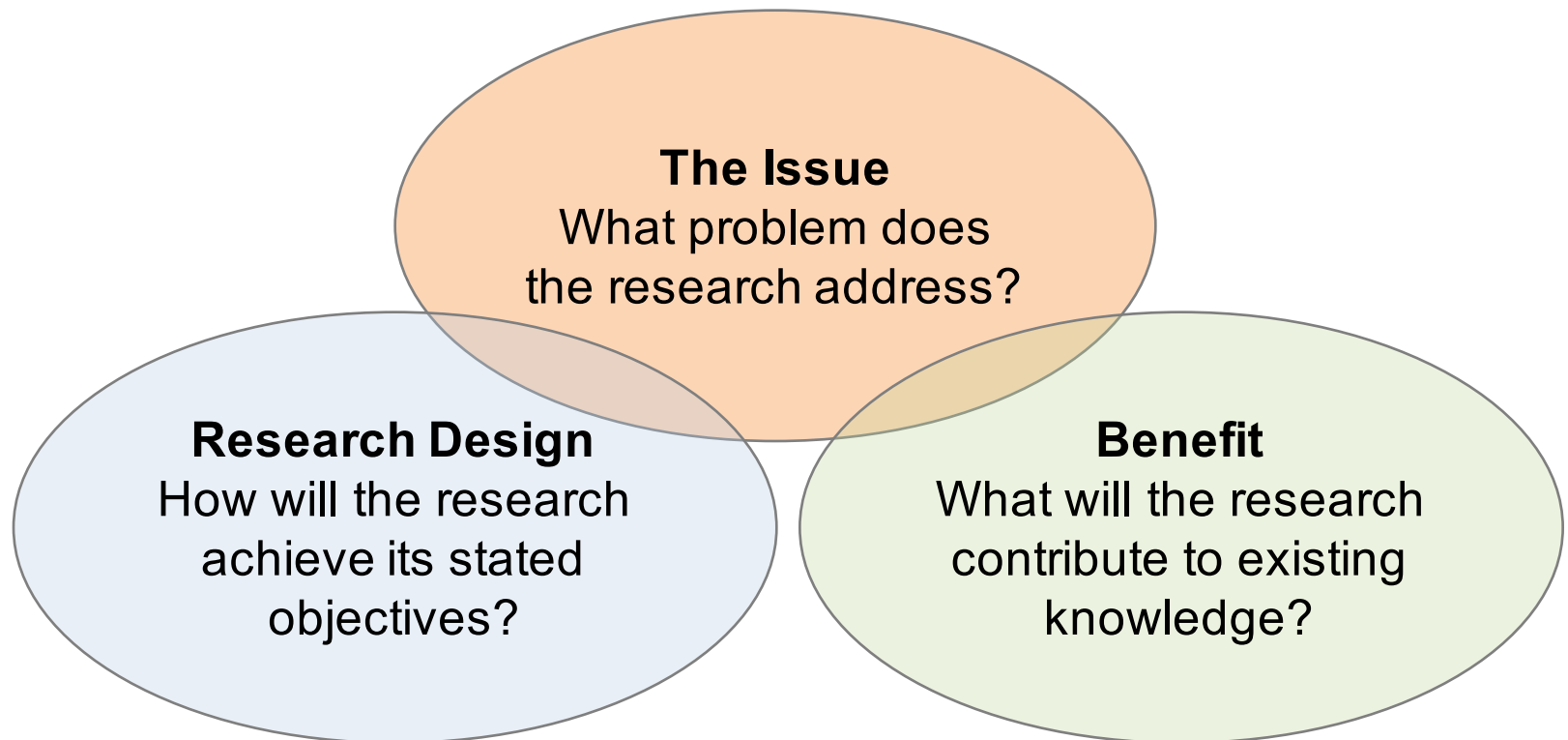
Justify your research

Anticipate potential problems

Be CREATIVE

Writing the research proposal

Essential points to be made ...



Writing the research proposal

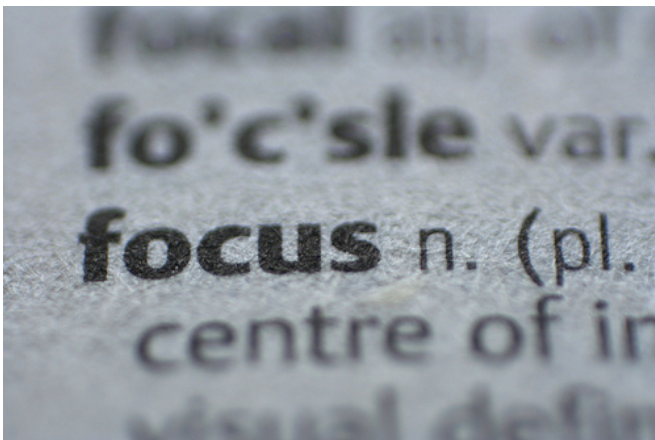
The importance of a good title ...

Your title is a mini-abstract: paint a quick picture of the key ideas!

- *The title should be clear, unambiguous and not cute.*
- *The words should reflect the focus of your research.*
- *Put the most important words FIRST.*

Title #1: Red Haired Musicians and their Preference for Musical Style

Title #2: Music Style Preference of Red Haired Musicians



What is the focus of each study?

The Writing Process

Getting started

- *Read papers relating to the topic*
- *Take notes of important facts/data/considerations as you read*

Drafts

- *first try: **outline the various sections – use complete sentences where possible***
- *second pass: fill in as much content as possible*
- *rinse, repeat...*

*In three weeks' time, you will have time
in class to complete an outline and
submit it!*

Introduction/Context

- *Importance of the problem; strong statement of goal(s)*
- *Background: elaborate on the research area; describe what is known/has been done*

Research Plan (the “meat” of the proposal)

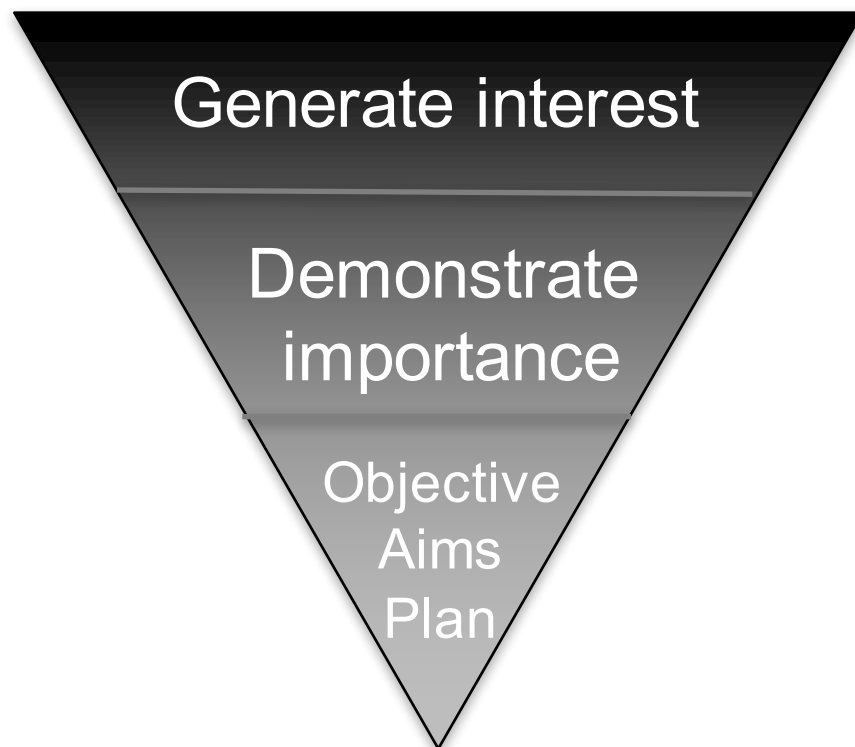
- *Rationale, objective and specific aims*
- *How the specific aims will be achieved via experiments*

References (use ACS or other scientific journal format)



Introduction

Use the inverted funnel approach ... start general, then move to specific aims ...



2 billion TB carriers
Tests inaccurate
10 million new cases this year

TB can be cured
Drug resistance increasing

Synthesis of new compound
Efficacy studies

Background

- *Briefly summarize what we know so far.
Stick to your topic, not the whole field!*
- *State what we need to know next.
This can be framed as a question.*
- *Explain why we don't know it yet.*
- *Describe how you intend to find the answer!*

Research Plan

- *Specific Aims: What will your research tell you?
What will you do? (sometimes combined with Techniques)*
- *Potential anticipated problems (brief)*
- *Alternative strategies if initial plans don't work (brief)*
- *Techniques (not too detailed)*
- *Timelines (your best estimate in units of months, not too detailed)*
- *Significance (additional implications of your work)*