



Writing the Research Objective:

What you should consider when writing one!

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The Research Objective:

This is probably the hardest part of the proposal....

A well-stated objective leads one directly to the approach that must be taken to accomplish the objective



The Research Objective contd...

Examples of what not to write:

- The objective of my research is to provide a quantum leap in the design of anti-gravity boots.
- The goal of this project is to develop an integrated modeling tool for the hardening process.
- The goal of this project is to develop innovative advances to enhance wire sawing processes.
- Rapid prototyping machines are an important part of the vast array of tools. It is very important that we improve these machines. Rapid prototyping will form the backbone of manufacturing in the future.

How to do it right:

- The research objective of this project is to measure the cross-section of the muon-neutrino interaction at 5 GeV accurate to 5%.
- The research objective of this proposal is to test the hypothesis that physical phenomena x,y,z dominate the chip formation process in the machining of brittle materials.
- The research goal of this project is to account for uncertainty in engineering design decision making through the application of utility theory.



The Research Objective contd...

How to do it wrong (“actual” submissions):

- This project aims to advance the research in predictive modeling for manufacturing process optimization.
- The proposed study will significantly advance the theory of random fields.
- This study will develop modeling and simulation-based technologies for building construction.
- New methods in robust optimization are proposed for optimizing complex models under uncertainty.

Four acceptable ways to do it right:

- The research objective of this proposal is to test the hypothesis H .
- The research objective of this proposal is to measure parameter P with accuracy A .
- The research objective of this proposal is to prove conjecture C .
- The research objective of this proposal is to apply method M from field Q to problem X in field R .



The Research Objective contd...

Do not use words that mean “not research”

- Develop
- Design
- Optimize
- Control
- Manage

Use of words such as these gives the reviewers the impression that you are not doing research, there is no innovation, nothing is new, etc. – your ratings *will* be lower

Doing it right:

- Frame your research: “My research goal is...”
- Then: “As a step toward this goal, the research objective(s) of this CAREER proposal is(are)...”
- Limit: 25 words or less
- Be specific about what you intend to find out
- Note - if you are specific, the research methodology will follow directly
- Be sure your statement is comprehensible
- Put it up front - sentence one, paragraph one, page one
- Do not give a weather report or state-of-the-union address