Proposal Writing

COSC 734

Turning a Good Idea into a Competitive Proposal

Based on NSF Proposal Writing Guideline

Write a Proposal to Answer Reviewers' Questions

What are you trying to accomplish?
What will be the outcomes?
} ***Goals etc.***

Why do you believe that you have a good idea?
Why is the problem important?
Why is your approach promising?
} ***Rationale***

How will you manage the project to ensure success?
How will you know if you succeed?
} ***Evaluation***

Scenario: Origin of a CCLI Proposal

- ***Prof X has taught* Signal Processing *at U of Y for several semesters***
- ***He has an idea for* greatly improving *the course by adding "new stuff"***
  - ***"New stuff"***
    - ***Material (e. g., modules, web-based instruction)***
    - ***Activities (e. g., laboratories, projects)***
    - ***Pedagogy (e. g., problem based learning)***
- ***He has done some preliminary evaluation***
- ***He decides to prepare a CCLI proposal***

Scenario: Professor X's Initial Proposal Outline

- ***Goals:*** **Develop "*new stuff*" to enhance student learning at U of Y**
- ***Rationale:*** **Observed shortcomings in educational experience of the students at U of Y and felt that *new stuff* would improve the situation**
- ***Project Description:*** **Details of "*new stuff*"**
- ***Evaluation:*** **Use U of Y's course evaluation forms to show difference**

Goals → Objectives → Outcomes

Project Goals and Objectives

Defining Goals

Broad, overarching statement of intention or ambition

Sample Goal for Prof. X

The project is developing a signal-processing laboratory that is vertically integrated into the curriculum to illustrate theoretical concepts through application-driven exercises

Project Objectives

Defining Objectives

Specific statement of intention

- **Measurable**
- **More focused and specific than a goal**
- **A goal typically leads to several objectives**

Sample Objectives

- ***Create laboratory exercises that give hands-on experience to enhance conceptual understanding***
- ***Increase student retention rates (in program) because interest in topic is increased***
- ***Increase retention of technical material for future courses***
- ***Improve laboratory skills of students***
- ***Improve student confidence or attitude about profession***

Example
Expected Measurable Outcomes

Objective: Increase student retention rates

- ***Increase student graduation rates by __ percent***
- ***Increase students' transition rates from the first to second year courses from __ to __***
- ***Increase the students' "Attitude towards discipline" as measured by surveys and interviews by ___ percent***

Your Message

We are ideally placed to do this timely research because

- We have an idea
- Our preliminary work shows that it's a promising idea
- We are the best in our field

Methodology/ Plans

- “Methodology”, or describing your step-by-step plans, is usually over-stressed in my view.
- Concentrate on (a) your idea, and (b) your aims/objectives/success criteria. Then the “methodology” part writes itself.

The Ideal Proposal

1. Here is a well-defined problem
2. It's an important problem (evidence…)
3. We have a promising idea (evidence…)
4. We are a world-class one (evidence…)
5. Here is what we hope to achieve
6. Here is how we plan to build on our idea to achieve it
7. **Give us the money. Please.**

One Page, Please

- Start with a **one-page summary**, that tells the whole story
- Remember: most of your readers will only read this page

Example

Discussion

1. Student research project proposal

2. Company project proposal

Guideline

- Follow the guideline of research paper
  - Motivation
  - Problem statement
  - Working plan
  - Evaluation plan