

Finding Support for a Women in Engineering Program

Jane Zimmer Daniels, Ph.D.

Purdue University
West Lafayette, Indiana

Getting support for your Women in Engineering Program (WIEP) means thinking creatively. If you can get the assistance you need or a project completed without requesting money, you have been successful. Therefore, my first question is always be, "What do I really need." If the response is role models, printed material, site visits, equipment, expertise or a variety of other things, I may not need to ask for money at all. That keeps the task of proposal writing for large, complex projects.

MATCHING RESOURCES WITH ACTIVITIES

In order to maximize the probability of successfully getting the resources you need, I suggest comparing the focus of your activity with the list of potential partners. To get help for a pre-college activity that focuses on high school or even younger girls, you should look toward organizations in the community where the activity will be held – local sections of the Society of Women Engineers, or other professional engineering societies; corporations; or local foundations. You may also find a source for assistance within your own institution, especially if a direct connection to the recruitment of potential students can be established.

On the other end of the spectrum, activities involving graduate students, you may want to concentrate on corporations who hire a large number of students with graduate degrees, the American Association of University Women (AAUW), or the graduate school within your own institution.

The type of assistance you need will also help to focus your search. If you are looking for scholarship money, you need a source that has cash to distribute, but if you are needing role models, an organization with little or no budget may be very willing to provide all the people you need. A large corporation, with its own internal printing capabilities, may be able to print brochures, stationary, or posters for you.

MOVING BEYOND INDIVIDUAL PROGRAMS TO SYSTEMIC CHANGE

1999 **WE**PAN National Conference

IDENTIFYING SOURCES

There are some logical places to look for help in obtaining the resources to provide a pre-college or college program for women in engineering. A guiding principal is the “win-win” situation. Identify sources of funding or in-kind assistance that have the same goal as you – to increase the number of women prepared to assume technical positions.

- ♦ **Corporations.** Find out which corporations employ graduates from your institution, which corporation have a local interest in your college/university and which corporations are under court order or other pressure to make efforts in the area of affirmative action.
- ♦ **Foundations.** Many private foundations have a focus on higher education. Unless they also have a focus on women or girls, you may need to broaden your activity.
- ♦ **Government Agencies.** In recent years, the Department of Education, NSF, the Department of Defense, NASA, and the Department of Energy have funded programs for women in engineering.
- ♦ **SWE Sections.** Professional and student sections of the Society of Women Engineers have complementary goals to most Women in Engineering Programs.
- ♦ **Student Participants.** Charging a fee to participants increases their commitment to attend and helps offset expenses involved with the program.
- ♦ **Alumnae.** Women alumnae from your institution should have a familiarity and appreciation of programs for women in engineering. They are often generous with their time and money.
- ♦ **Piggyback.** Is there a university or College of Engineering program to which you could add an activity for women in engineering. This is a cost-effective way to implement a pre-college program.

LOCATING FUNDING SOURCES

There are several computer based search programs that might be available within your institution to assist you in locating potential sources of assistance. The first five bullets represent such programs and pairing key words such as “women/girls” with “education” “engineering/science” can provide useful results. Contact your institutions’ office for contracts and grants. Someone there should be able to tell you if these programs are available to you. The program officers at funding agencies may help you locate other potential sources and professional grant writers often know sources.

- | | |
|----------------|--------------------|
| ♦ Research Net | ♦ COM |
| ♦ CFDA | ♦ Funding Agencies |
| ♦ SPIN | ♦ Grant Writers |
| ♦ IRIS | |

MOVING BEYOND INDIVIDUAL PROGRAMS TO SYSTEMIC CHANGE

1999 **WEPAN** National Conference

OBTAINING INFORMATION ABOUT POTENTIAL SOURCES

There are useful publications, web sites, and on-campus offices that can provide information about potential donors. Here are some suggestions:

- ✦ Corporate Foundation Profiles
- ✦ Foundation Reporter
- ✦ Chronicle of Philanthropy
- ✦ Directory of Intl. Corporate Giving
- ✦ Directory of Major (name of your state) Foundations
- ✦ Corporate Yellow Book
- ✦ Harris (name of your state) Industrial Directory
- ✦ www. (corporation name). com
- ✦ Career Services (Placement) Office
- ✦ Alumni Office
- ✦ Registrar
- ✦ National SWE Office (212) 509-9577

In addition, you can find information about programs of federal agencies from their web sites:

- ✦ NSF - www.nsf.gov
- ✦ Dept. of Education - www.ed.gov
- ✦ NASA - www.nasa.gov
- ✦ NIH - www.nih.gov
- ✦ Dept. of Agriculture - www.usda.gov
- ✦ Dept. of Energy - www.doe.gov
- ✦ Dept. of Transportation - www.dot.gov
- ✦ EPA – www.epa.gov

WRITING PROPOSALS

If you have been unable to obtain the resources you need through other means, you might find it necessary to write a proposal for the money you need. A proposal should be considered only for large amounts of money. The time and effort put into writing a proposal must be justified by the likelihood of receiving funding.

Successful Grant Writers

There are some common characteristics among people who are successful in getting their proposals funded. Here are some of those traits to keep in mind:

- ✦ **Take a long-term view.** Don't become impatient.
- ✦ **Develop partnerships.** Funding agencies like projects that will have an impact in more than one institution.
- ✦ **Cultivate relationships** with colleagues and program officers at funding agencies.
- ✦ **Be flexible.** Be willing to modify your project if it improves the chances of receiving funding.
- ✦ **Welcome "in-kind" contributions.** You don't always need money.
- ✦ **Realize that your first steps are the hardest.** Once you have taken the time to complete a good proposal, you can use many pieces of it for the next one

MOVING BEYOND INDIVIDUAL PROGRAMS TO SYSTEMIC CHANGE

Proposal Writing Strategies

Some of these suggestions may sound simplistic, but funding agencies regularly receive proposals that are ineligible based on a lack of attention to guidelines. You want to be sure your proposal makes it through the review process as easily as possible.

- ✦ **Read the program guidelines carefully.** Use a highlighter to remind you of important points.
- ✦ **Read a successful proposal.** Previously funded proposals may be available from the funding agency, but can often be obtained more quickly by writing or calling the principal investigator (P.I.) of a funded project.
- ✦ **Develop boilerplates.** There are usually many parts of a proposal that can be used verbatim in future proposals (background, institutional information, qualifications of the principal investigator, etc.)
- ✦ **Make an outline**
- ✦ **Add text**
- ✦ **Develop a budget.** Your budget should be realistic, but not padded. Don't underestimate the amount of time or resources you need to implement the proposed project. The funding agency may ask you to cut a budget during negotiation, so it is good to have considered ahead of time what might be eliminated or curtailed.
- ✦ **Check the format.** Have you been consistent in headings, bulleted lists, etc. and have you included every portion requested in the guidelines.
- ✦ **Review your proposal like a reviewer.** Ask a colleague to review your proposal critically. It is difficult for you to differentiate between the words you "actually" wrote and the words you "intended" to write. Someone unfamiliar with your project can identify things, which are confusing or conflicting within your proposal.
- ✦ **Be realistic.** If you anticipate problems, don't pretend like they don't exist. State them and describe how you plan to manage them.

Proposal Content

The proposal content is dependent on the guidelines from the funding agency, however, there are some typical components which should be considered:

- ✦ **Letter of transmittal**
- ✦ **Title page**
- ✦ **Table of contents.** Many word processing packages will prepare one automatically, eliminating the possibility of errors of inconsistencies.
- ✦ **Summary or Abstract**
- ✦ **Introduction**

MOVING BEYOND INDIVIDUAL PROGRAMS TO SYSTEMIC CHANGE

1999 WEPAN National Conference

- ✦ **Problem or need**
- ✦ **Content or design**
- ✦ **Evaluation**
- ✦ **Timetable**
- ✦ **Project management.** Be specific. Tell who will be doing what part of the project and indicate their credentials relevant to the responsibility.
- ✦ **Capability of your institution.** Most funding agencies consider that they are funding the institution, not just the individual. Clearly articulate why your institution is the appropriate place to implement the proposed project and outline any facilities or services which will be provided.
- ✦ **Budget.** Be sure to line up numbers using a decimal tab.
- ✦ **Appendices.** Check the guidelines carefully. Many funding agencies put a limit on what can be submitted in appendices and reviewers are often told that they do not need to read appendices.

Criteria for Evaluating Proposals

Specific evaluation criteria can often be found in the proposal guidelines, however, there are some typical areas of evaluation:

- ✦ **Clarity of language and format.** Don't use run-on sentences that are complex and confusing. The proposal should be easy to read (large enough type so that reviewers don't get eyestrain on their twelfth proposal of the day) and easy to understand. Don't use jargon or abbreviations. Bulleted lists, graphs, and timelines are often easier to understand than paragraph after paragraph of descriptive text.
- ✦ **Completeness.** Your proposal must include everything required by the guidelines.
- ✦ **Responsiveness.** Is your proposed project responsive to the focus of the funding agency's program? If the program is for mentoring, don't propose tutoring and explain how tutors will mentor students while they are tutoring. You should be passionate about your project. If you have had to alter your "baby" too much to fit the proposal guidelines, you should probably seek a different funding source.
- ✦ **Internal Consistency.** Watch the words to use throughout the proposal. If you have called a set of items "goals" in the introduction, don't refer to the same items as "objectives" later in the proposal. Also be attentive to the format. Have you used the same style of headings, subheadings, indentations, etc. throughout the proposal?
- ✦ **External Consistency.** Be sure your project consistent with recent research findings and the direction of other activities focusing on the same problem.

- ✦ **Understanding the Problem.** You should show through your proposal that you have knowledge of related research and an understanding of the complexities associated with gender equity in education.
- ✦ **Capability.** Present your credentials and related experience without modesty. If there are skills needed to successfully implement the project which you do not have, be sure you have identified who will provide them.
- ✦ **Accountability.** Describe how you will demonstrate accountability for the funds you will be given.
- ✦ **Realism.** If you anticipate problem areas or obstacles, you should identify them and describe your plan for managing them.

Corporate Proposal Writing

Many of the suggestions made in the previous sections also apply to writing a proposal to a corporation, but there are a few important differences:

- ✦ Printed material is often not available, although information on web sites is becoming more common.
- ✦ Guidelines are often less detailed
- ✦ A corporate “angel” or “advocate” can be crucial. Corporations receive so many requests, that yours may be disregarded unless someone internal is pushing it.
- ✦ Proposals should be no more than five pages if a page limit is not defined.
- ✦ Budget categories should be less detailed (e.g. Salaries/wages, program cost)
- ✦ Ask if overhead is allowed. A corporate donation is often considered a “gift” not a “contract”.

CONCLUSION

You can get support for your Women in Engineering Program if you are not alone in the venture. You should be sure your dean, provost and others agree with your goals. Then you will be successful if you:

- ✦ **Have a good idea**
- ✦ **Identify the resources you need**
- ✦ **Ascertain the most appropriate source of assistance**
- ✦ **Write a clean proposal (if one is absolutely necessary)**
- ✦ **Be persistent**

MOVING BEYOND INDIVIDUAL PROGRAMS TO SYSTEMIC CHANGE

1999 WEPAN National Conference