Grant Writing Handbook

ADELPHI UNIVERSITY
GARDEN CITY, NEW YORK

Foreword

This is the seventh edition of the Adelphi University *Grant Writing Handbook*. The purpose of this *Handbook* is to provide general information about grants, grant writing, and University policies concerning the processing of grant proposals. The mission of the Office of Research and Sponsored Programs is to provide support to faculty, students, and administrators in their efforts to obtain funding that enhances research, teaching, and scholarship at the University. The Office of Research and Sponsored Programs wishes to thank the faculty whose work appears here as illustrations.

The *Handbook* is available online at **administration.adelphi.edu/osp/handbook.php**.
Please check the Office of Research and Sponsored Programs' Web site at **administration.adelphi.edu/osp** for necessary forms, specific updates, and revisions to University policies and procedures. Your comments and input are always welcome, so feel free to contact our office at (516) 877-3161 or by email at breton@adelphi.edu, bruchhau@adelphi.edu, and cortina@adelphi.edu.

Preface

This *Handbook* is a summary of information about applying for and writing a grant. It also presents Adelphi's procedure for preparing, processing, and submitting grant proposals to federal agencies and private foundations. The *Handbook* does not cover procedures for preparing and processing of contracts that commit the University to certain guaranteed obligations. Procedures for preparing and processing contracts are similar to those for grants, as specified in this *Handbook*; however, contracts require legal and insurance review by the Office of Business Affairs.

If you are considering writing a grant proposal, please do not be overly concerned about forms, budgets, targeting possible funding agencies, etc. The Office of Research and Sponsored Programs will provide you with assistance in completing these tasks. First and foremost, the Office is here to help you through the grant process, and our door is always open.

The starting point of any grant is the idea. What do you want to do, and why do you want to do it? Who would benefit from this work? How much would it cost? How long would it take?

Congratulations, you have just written a "concept paper." This can be distributed to peers, colleagues, and administrators for feedback and suggestions. You and the Office of Research and Sponsored Programs can begin searching for prospective funders.

Searching for Funders

There are many sources of funding for University research, teaching, and scholarship. At the federal level, Adelphi faculty have received grant awards from the U.S. Department of Education (ed.gov), the National Science Foundation (nsf.gov), the National Institutes of Health (nih.gov), and the Department of Energy (doe.gov). In addition, faculty have received grants from the New York City Department of Education, the New York State Education Department, the Nassau County Department of Social Services, and several foundations, including the New York Community Trust and Helene Fuld Foundation. These various grants have funded research, curriculum innovations, training, and direct services. Training projects involve preparing or training students in a special manner or for a specific purpose, i.e., certification for bilingual special education teachers. At the doctoral and postdoctoral levels, several candidates from the Derner Institute of Advanced Psychological Studies have been awarded fellowships from the National Institutes of Health (NIH), specifically the National Institute on Drug Abuse (NIDA).

The Foundation Center (fdncenter.org), a private nonprofit located in Manhattan, is **the source** for information about foundations. They maintain an excellent library and computer center that are open to the public. In addition, the Foundation Center offers proposal writing workshops (fee-based) as well as introductory mini workshops at no cost. Several of their publications are available at the Swirbul Library.

In addition, the Office of Research and Sponsored Programs subscribes to two databases, SPIN and the Foundation Directory Online. SPIN is a searchable database of private, government, and corporate funders. Everyone can access SPIN from the ORSP Web site, administration.adelphi.edu/osp/services.php.
The Foundation Directory Online provides access to 60,000 foundations. This can be accessed only by the ORSP. We are happy to search for funding for you.

Grants and contracts, regardless of the funding source, are always awarded to the institutions, and ultimately, the University and the principal investigator or project director (PI/PD) are responsible for the fiscal and programmatic management of the award. Therefore, it is important that your dean, the ORSP, the grants accountant, and the Provost are aware of your proposal. The faculty member should discuss his/her proposal with the dean of the school and the ORSP. For a grant proposal to reflect our best work, and for everyone involved to have sufficient time to understand the proposal, the grant narrative and budget must be delivered to the Office of Research and Sponsored Programs **seven working days** prior to the agency deadline for final approval by the office's Associate Provost

Preparing and Processing Proposals

What follows is a layout of the steps, including administrative steps, in preparing and submitting a grant proposal. Some steps are guides for the investigator, such as the steps involved in drafting a proposal. Some steps are legally and/or institutionally required, such as sign-off by the Provost's Office (see section on Internal Review). The specific sections of the proposal are addressed more fully in a later section of this *Handbook*, titled "Proposal Writing In-Depth."

Note: All projects involving the use of human participants must be reviewed by the University's Institutional Review Board (IRB). Forms for submitting your research protocol to the IRB are available from the Office of Research and Sponsored Programs, or from the IRB Web site at administration.adelphi.edu.osp/irb.php, and a reproduction is included in the IRB section of the Handbook. The IRB is currently cochaired by Dr. Michael O'Loughlin, Ruth S. Ammon School of Education, and Dr. Carolyn Springer, Derner Institute of Advanced Psychological Studies. The IRB has representation from all schools and the college.

All projects involving vertebrate animals must be reviewed by the University Animal Care and Use Committee (ACUC). The current chair of the ACUC is Dr. David Jones, College of Arts and Sciences. The ORSP is your contact point for both the IRB and the ACUC.

The Concept Paper or Letter of Intent

After envisioning a project and learning of some possible funding sources, the principal investigator may prepare a rough outline or a concept paper. These are brief two-to-four-page documents that present a condensed version of your proposal. The outline or concept paper should include an opening paragraph, the need you are addressing, the key ideas or hypotheses, a description of the project design, a brief time line, the expected outcomes, your qualifications, and the overall budget you are requesting. If interested, the funder will ask for a full proposal from the applicant. This two-stage process is common for **foundation** proposals. In general, proposals should address the following:

- Is the idea new and innovative?
- Is the idea timely?
- Is there a clear need for the project?
- What difference will the project make?
- What has already been done/accomplished in this area?
- How will the project accomplish its goals and objectives?
- How will the project's effectiveness be evaluated?
- Is the project cost effective?

Of course, these questions should be adapted to your specific project, and the proposal should be viewed in the context of the funding agency's priorities. The actual format for the proposal will vary according to the sponsor. Federal/state agencies and foundations typically provide very detailed instructions for proposal preparation, including the method of delivery. For example, almost all federal agencies require that proposals be submitted electronically. It is important that you **follow all directions carefully**, as funders usually reject proposals simply on the basis of errors in page limits, type size, etc. The Office of Research and Sponsored Programs will assist you with formatting and editing.

While almost all proposals will be reviewed by a panel of experts in the field, often panel members have a wide spectrum of backgrounds and areas of expertise. It is up to you to make your proposal as clear, precise, and persuasive as possible.

Consultation with the Dean, Colleagues, and the Office of Research and Sponsored Programs

The principal investigator may wish to solicit comments and suggestions from fellow faculty, the unit chair, and dean. The PI and director of ORSP discuss the idea, identify potential sponsors, review University procedures, sponsor regulations, and along with the grants accountant, develop the budget.

All of the published literature on grantsmanship emphasizes the importance of making contact with funding sources. The principal investigator (and/or the director of ORSP) may correspond with the program officer(s) of the prospective sponsor(s). The PI uses this opportunity to describe his/her interests and get the program officer's feedback. Some agency personnel are more involved than others; sometimes the program officer will review a draft of the proposal.

The Office of Research and Sponsored Programs will insure that both the University and the PI/PD are eligible to apply for funding.

The Working Draft and Budget

The PI/PD is now ready to write a good working draft of the proposal that will include a detailed time line and budget. The time line is part of the project design or project plan that describes the activities of the grant personnel over the course of the grant period. Many foundations fund projects for a one-year period, while federal agencies vary, with the U.S. Department of Education typically funding proposals for three-year periods and the National Institutes of Health for between four and five years.

For the draft budget, the principal investigator and the grants accountant review the basic budget categories. Typically, these are:

1. Salaries and fringe benefits of the project personnel, the principal investigator(s), research assistants, consultants, etc. The grants accountant has access to salary information; the University's current fringe benefit rate (25.4%); and the current indirect or F&A rate. The approved F&A (facilities and administrative costs) or indirect rate for Adelphi University is 67.4% of salaries only (see description of F&A in the budget section of "Proposal Writing In-Depth"). The University, however, generally accepts restrictions to indirect that the funder specifies—e.g., 8% on training grants.

2. Materials and supplies

3. Correspondence (e.g., telephone, postage)

4. Travel

5. Equipment

6. Indirect Costs (as specified by the funder)

The Office of Research and Sponsored Programs and the grants accountant always work closely with the principal investigator in developing a sound budget that meets the sponsor's and the University's requirements. Most grants require a detailed budget narrative that describes how you arrived at particular costs and why certain personnel are needed.

Sample budgets for different funders appear on pages 29–31.

Internal Review Process

Internal Review and Grant Routing Form

The Provost is the University's authorized official representative and must sign the funder's face page or cover page on behalf of the University. In addition, the University has an internal processing form, the Grant and Contract Routing Form (see next page), which needs to be completed and signed by the faculty member, the chair (where appropriate), the dean, the budget office, and finally the Provost. In signing the routing form, the faculty member is committed to carry out the program as planned should an award be made. The routing form is also your assurance that the appropriate university officers have reviewed and approved the proposal since a grant award also obligates the University to the fiscal management and programmatic oversight of the project. Please remember the grant narrative and budget must be delivered to the Office of Research and Sponsored Programs **seven working days** prior to the agency deadline for final approval by the Provost.

ADELPHI UNIVERSITY

Grant and Contract Routing Form

Note: Before submitting a research grant or contract for internal or external funding, the documents must be reviewed by the Office of Research and Sponsored Programs. After PI, Dept. Chair, and Dean have signed this form, it must be submitted, along with the proposal and other necessary documents, to the ORSP They will obtain all other required signatures.

1) Principal Investigator: _____

2) Project Title: _____

_____

3) Sponsoring Agency (if not Adelphi): _____

4) Type of Application:

Internal Faculty Development_____ New ____ Revision ____ Renewal ____ Continuation _____

If Renewal or Continuation, supply current Grant or Contract number:_____

5) Project Purpose:

Basic Research ____ Clinical Research ____ Training ____ Equipment _____

Teaching _____ Scholarships/Student Support _____ Other (specify) _____

6) Proposed Project Period: _____

7) First Year Budget Requested: Direct _____ Indirect _____ Total _____

8) Budget for Entire Project Period: Direct _____ Indirect _____ Total _____

9) Restrictions or limits on Salary that can be requested? Yes ___ No ___

If yes, attach guidelines.

10) Does Grant contain a Cost Share component? Yes ___ No ___ $ Amount _____

If yes: Required _____ (supply written guidelines) Voluntary _____ (explain further on separate page)

❑ Initials of Dean(s) _____

11) Restrictions on publications or proprietary information? Yes ___ No ___

12) Will this research require the use of animals? Yes ___ No ___

If yes: Have you applied for IACUC approval? Yes ___ No ___

13) Will this research involve human subjects? Yes ___ No ___

If yes: Have you applied for IRB approval? Yes ___ No ___

14) Do you require any additional space other than what is currently assigned to you? Yes ___ No ___

If yes, explain further on separate page.

15) Will the project require faculty release from current duties? Yes ___ No ___

If yes, explain further on separate page. ❑ Initials of Department Chair (if applicable) _____

❑ Initials of Dean(s) required _____

Signatures: _____ Date _____

Principal Investigator

_____ Date _____

Department Chair (where applicable)

_____ Date _____

Dean

_____ Date _____

Budget Office

_____ Date _____

Provost

Institutional Review Board (IRB)

Research involving human subjects must be submitted to the Adelphi Institutional Review Board, and must comply with federal regulations and ethical guidelines set forth in the Catalog of the Federal Register (For example, DHHS Regulations US CFR 46, NSF Regulations US CFR 690, *The Belmont Report*). For its review, the IRB requires a copy of the proposal or research design and the completion of the required IRB forms. Forms are available through the Office of Research and Sponsored Programs and on the ORSP Web site at administration.adelphi.edu/osp/irb.php. Although you do not need IRB approval before you submit your proposal, you do **need approval before beginning your study.** Please note, the University requires IRB approval of all research protocols, regardless of the funding source—that is, whether it receives funding from an outside agency, the University itself, or no funding at all. The review form is reproduced on the following pages.

Review by the IRB involves peers, two faculty members from each of the Schools and the College, and a volunteer member from the broader community. The members of the IRB are: Dr. Michael O'Loughlin, cochair, Ruth S. Ammon School of Educatio, Dr. Carolyn Springer, cochair, Derner Institute of Advanced Psychological Studies; Drs. Anna Akerman, and Deborah Little, College of Arts and Sciences; Drs. Simon Sheng and Sebastian Sora, School of Business; Dr. Patrick Ross, Derner Institute; Drs. Robert Otto and Lawrence Raphael, Ruth S. Ammon School of Education; Drs. Patricia Donohue-Porter and Ditsapelo McFarland, School of Nursing; Dr. Bradley Zodikoff, School of Social Work; and a community member. The IRB can do expedited reviews as long as the proposal does not involve children, institutionalized groups, or other vulnerable populations, and the research methods are standard and accepted in the literature. The IRB meets monthly, except for January, June, and August. Since approval can take up to two weeks, it is imperative that we receive your proposals on the 15th of the month preceding the IRB meeting. More information is provided in the *IRB Policies and Procedures Manual* and on the Web at **administration.adelphi.edu/osp/irb.**

Adelphi University
Institutional Review Board Research Review Forms

IRB ID #
(to be completed by the committee)

Please type all entries

Date submitted to IRB:

TITLE OF PROJECT:

PRINCIPAL INVESTIGATOR:

Address:
Phone:
Email:

Faculty Adviser (if not the PI): **Please note: students are required to have a faculty adviser**

Address:
Phone:
Email:

You must complete a training program in the protection of human research participants before you can begin your research. Please indicate the date the training was completed ( ) and include a copy of the certification with this application.

If you have not completed a training program, please contact the Office of Sponsored Programs or take any of the following online programs: cme.cancer.gov/c01, or my.research.umich.edu/peers, or nyu.edu/ucaihs/tutorial.

Please answer Yes or No to the following, and provide an explanation, if requested:

1. Does this research EXCLUDE children, the elderly, prisoners, fetuses, pregnant women, the seriously ill, mentally or cognitively compromised adults or other vulnerable groups (institutionalized populations)? If your answer is **NO,** Please explain **the rationale for including the specific population(s) and the precautions you will use to protect them.**

2. Do you believe this proposal should be **exempt from IRB review (see IRB Policies and Procedures Manual, section VII RESEARCH EXEMPT FROM IRB REVIEW [part A&B])?** If **YES,** please explain.

3. Does this proposal **involve the use of deception?** If **YES,** please explain.

4. Are you requesting that **written informed consent be waived (see IRB Policies and Procedures Manual, section XIII INFORMED CONSENT [B,C, and D])**?
If **YES,** please explain.

I. BRIEF DESCRIPTION OF THE PROJECT'S PURPOSES:

II. PLANNED DATES FOR INITIATION AND COMPLETION OF THE PROJECT:

III. NUMBER OF SUBJECTS:

IV. CHARACTERISTICS OF SUBJECTS (e.g., age range, special populations, etc.)

V. METHOD OF SUBJECT RECRUITMENT:

VI. BRIEF DESCRIPTION OF PROJECT'S METHODS AND RESEARCH DESIGN:

VII. SEQUENCE OF ACTIVITIES REQUIRED OF THE SUBJECT (FOR EXAMPLE, ADVERTISEMENT, CONSENT, DEBRIEFING, ETC.)

VIII. ESTIMATED TIME COMMITMENT REQUIRED OF THE SUBJECTS:

IX. ANY POTENTIAL RISKS, DISCOMFORTS, OR STRESSES AND THE PRECAUTIONS TAKEN TO MINIMIZE THEM

SIGNATURES AND DATE OF ALL RESEARCHERS WHO WILL BE WORKING IN DIRECT CONTACT WITH STUDY PARTICIPANTS. IN ADDITION, FACULTY ADVISERS MUST SIGN BELOW. THESE SIGNATURES INDICATE THAT ALL THE RESEARCHERS HAVE FAMILIARIZED THEMSELVES WITH UNIVERSITY POLICIES REGARDING THE LEGAL AND ETHICAL TREATMENT OF HUMAN SUBJECTS IN RESEARCH, AND ARE CERTIFIED IN HUMAN SUBJECTS PROTECTIONS TRAINING

Principal Investigator:

Name: _____ Date:

Signature: _____ _____

Affiliation: _____
(institution/organization)

Faculty Adviser (if applicable):

Name: _____ Date:

Signature: _____ _____

Affiliation: _____

(institution/organization)

Name: _____ Date:

Signature: _____ _____

Affiliation: _____

(institution/organization)

ATTACHMENTS CHECKLIST:

____1. INFORMED CONSENT FORM (**PLEASE NOTE THAT THE IRB HAS DECIDED THAT ALL CONSENT FORMS/LETTERS SHOULD INCLUDE THE FOLLOWING STATEMENT)**

THIS RESEARCH HAS BEEN REVIEWED AND APPROVED BY THE ADELPHI UNIVERSITY INSTITUTIONAL REVIEW BOARD. IF YOU HAVE ANY QUESTIONS, CONCERNS, OR COMMENTS, PLEASE CONTACT DRS. MICHAEL O'LOUGHLIN AND CAROLYN SPRINGER COCHAIRS OF THE ADELPHI UNIVERSITY IRB, RESPECTIVELY, (516) 877-4108, OLOUGHLI@ADELPHI.EDU; (516) 877-4753; SPRINGER@ADELPHI.EDU.

____2. Debriefing Form (if applicable)

____3. Representative sample of materials/test/questionnaire items

____4. Sign-up sheet, solicitation script or advertisement (whichever is applicable)

____5. Other attachments

Education in the Protection of Human Subjects

Adelphi University requires that all persons engaged in research with human subjects, including all those involved in the data collection process of a research study, to undertake an online training program in human subjects' protections. The resulting certification must be provided to the Office of Research and Sponsored Programs and/or sent with your IRB review form and proposal.

You may take any of these online trainings:

- cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp
- my.research.umich.edu/peerrs
- nyu.edu/ucaihs/tutorial

Or you can also request a CD from the Office of Research and Sponsored Programs at x3259.

The University is following the guidance of the National Institutes of Health which requires that all key personnel involved in a funded project be certified in human subjects' protection. The NIH defines key personnel as anyone involved in the design or conduct of the study. NIH requires investigators to provide a written description of the education/training they completed in the protection of human subjects, and requires information concerning how the investigator will ensure the validity and integrity of the data.

Animal Care and Use Committee

All research involving animals must comply with federal regulations (NIH and USDA) set forth in The Animal Welfare Act (PL 89-544, 1966, as amended, 7 U.S.C. 2131 et seq. and specified in NIH Publication No. 85-23, revised 1985). In addition, animal care and use procedures are subject to inspection, review, and approval by a New York State veterinarian.

At Adelphi University, research involving animals must be approved by the Institutional Animal Care and Use Committee. The committee is chaired by Dr. David Jones, and includes a licensed veterinarian, member of the community, and faculty from biology, Drs. Tandra Chakraborty, Carol Diakow, James Dooley, Alan Schoenfeld, Andrea Ward, and Benjamin Weeks. The committee meets in November and March, and the protocol can be obtained from the chair, or downloaded from the Web at **administration.adelphi.edu/osp/animals.php**.

Final Version of Proposal

At this stage, the budget and proposal narrative are finalized, letters of support, résumés, and other appendices (if allowed) are added to the proposal. All forms and signatures required by the sponsoring agency are completed. The proposal is then submitted to the provost for final approval and official signature. The Provost's Office requires **seven business days** prior to the agency due date in order to review the proposal. The provost is the university's official "Institutional Representative" for all sponsored projects, and signs all forms required by the funder. In signing the forms, the Provost indicates that the university will undertake the project and be responsible for its fiscal and programmatic management.

Proposal Writing In-Depth

Proposal Contents

"You should say what you mean," the March hare went on. "I do," Alice hastily replied. "At least I mean what I say—that's the same thing, you know." "Not the same thing a bit!" Said the Hatter. "Why you might just as well say that 'I see what I eat' is the same thing as 'I eat what I see.'"

Lewis Carroll, *Alice in Wonderland*

It is often said that writing a proposal is an exercise in persuasion; therefore, the quality of the proposal and its effectiveness at communicating your ideas are critical. Reviewers agree that well-written proposals are clear, precise, and focused. In general, your proposal should consist of the following parts:

Abstract
Statement of Need
Project Design
Project Personnel
Management Plan
Evaluation Plan
Dissemination Plan
Sustain ability
Budget

As you can tell from this list, grant proposals can be fairly streamlined documents, and almost all funders set page limits of 15, 25, or 40 pages in total.

Abstract

Every proposal should have a one-page abstract that describes the project including the objectives, procedures, and outcomes. The abstract should give the reviewer a quick but fairly complete overview of the project. The usual advice for writing abstracts is to consider them as self-contained descriptions that are suitable for publication. In fact, many federal agencies will make the abstract public if the proposal is funded.

SAMPLE Abstract #1

Development of a Novel Iridium Oxide (IrOx)
Based Acidity Sensor for Nonaqueous Applications

A novel sensor for detection of petroleum products acidity will be designed, built, and demonstrated on aqueous samples and on nonaqueous samples such as: fuels, lubricants, and even cooking oils. The sensor concept will be based on application of the novel electrode material, Iridium oxide (IrOx). The sensor will work in the potentiometric mode using an IrOx electrode as an indicating electrode and an Ag/AgC1 or Ag/Ag2O—as a reference electrode. The preliminary results show that the IrOx electrode responds to compounds present in fuel that have an acid-base character. Continuation of these studies is required in order to develop the in-line sensor capable of direct measurements in undiluted fuel/oil samples. Research tasks will be centered on developing novel sensor design satisfying two major requirements: (1) allowing conducting electrochemical measurements directly in undiluted fuel/oil and (2) providing the protection of the sensor from fouling effect of fuel/oil. Achieving these goals will require inventing and constructing a special sensor design. A novel cell design called three phase boundary electrode assembly will be applied. Using an in-line IrOx sensor, it will be possible to determine the acidity of different fuels/oils and discriminate between the neat and thermally stressed fuels/oils. It will also be possible to correlate the response of an IrOx sensor with the total acid numbers of different fuels/oils. Finally, by the comparable studies of other commercially available pH sensors, the IrOx response will be demonstrated to be faster, better defined, more accurate and more reproducible than a response of the other commercially available sensors in nonaqueous solutions. In the future, the research would be continued in order to check the data reproducibility and long-term stability of the sensing probe as well as its miniaturization.

SAMPLE Abstract #2

The Teachers of Mathematics Scholarship (TOMS) program will provide both academic and substantial financial support to mathematics majors who are pursuing a secondary teaching credential through Adelphi University's Scholar Teacher Education Program (STEP). Sixteen students will be assisted in their junior, senior, and master's years of study. Most of the 16 students will have transferred to the University from community colleges in the Metro New York area through an active recruitment process that Adelphi will put into place and that has been successfully used for other programs at the University. The PI and Co-PI are committed to the recruitment of underrepresented students, especially African American and Latino students, into the TOMS program.

TOMS will feature junior-year placement of the mathematics teacher candidates into high-need middle and high school settings, such as those in the Hempstead, Westbury, and Roosevelt Districts of Long Island, New York (Hempstead and Roosevelt are Schools Under Registration Review by the NYS Education Department; Westbury is 98% African American and Latino). The School of Education has established a working partnership with these schools over the past five years. Mathematics teacher candidates will start observing and working with students in these schools at the beginning of their junior year at Adelphi. This feature is unique to TOMS since teacher candidates usually do not begin working in a district until their master's year and usually not in high-need districts such as these. TOMS Co-PI, a professor mathematics education, has been a principal player in working toward a transformation of Hempstead High School as well as other high-need schools in the Long Island area.
Adelphi University is an institution that is well-qualified to undertake the implementation of this project. Adelphi is committed to preparing teachers who are professional, mindful, reflective, compassionate, thoughtful, and socially and intellectually engaged. Adelphi requires its future teachers to have a full major in an academic subject such as mathematics, as well as a complete program of teacher education. This is accomplished in a five-year combined B.A./M.A. program.

This proposal incorporates several key elements of success: 1. the use of existing partnerships with local community colleges, 2. Collaboration among faculty from the College of Arts and Science, the School of Education, and school districts, 3. The use of a cohort approach, 4. Continuous support at the pre-service and in-service level for the novice teacher, and 5. Specialized content and methods courses.
TOMS will demonstrate how to more effectively recruit and support candidates from traditionally underrepresented groups. Research during the induction years will offer insight into the particular struggles for these candidates. The lack of highly qualified mathematics teachers in high-need school districts has become a critical issue to the national interest.

Statement of Need

The statement of the problem or need is the reason behind your proposal. This section should be a well-documented description of the problem, why it needs to be addressed, why it is significant, and who will benefit. This is usually where you review the literature, describe other attempts to address the problem, use data to back your claims, and provide a "transition" to your proposed solutions to address the problem. There should be a logical flow from the problem/need to your research or project. The following questions are guides for writing the problem section:

- Is the magnitude and significance of the problem established?
- Is a thorough understanding of the problem/need demonstrated?
- Is there a logical transition from the need to the proposed solution?
- Has other research in the area been acknowledged?

SAMPLE Statement of Need

The Need for Special Education Teachers

The need for highly qualified adolescent special education and bilingual childhood special education teachers is acute in the New York City Public School System. The shortage of teachers in these areas is particularly high in District 75, the citywide district serving approximately 22,000 students between the ages of 4 and 21 years with severe disabilities. These disabilities include moderate to profound cognitive, physical, sensory, and emotional disabilities, as well as autism, speech and language disorders, and chronic medical conditions. District 75 operates 56 schools, including 13 high schools, and also includes programs in nearly 300 additional sites. District 75 educates students in all five boroughs of the City of New York: Manhattan, Brooklyn, Queens, Staten Island, and the Bronx. Some of these schools and sites are in the Empowerment Zones of Harlem and the South Bronx.

The overall shortage of adolescent special education and bilingual special education teachers in New York City and throughout New York State makes it difficult for District 75 to find teachers with the appropriate certifications to meet their staffing needs. The State of New York considers any area where 5% or more of full-time teaching assignments are held by teachers without appropriate certification to be a shortage area. The latest data released by the State of New York in the report of teacher supply and demand in New York City stats that

22 percent of teachers of adolescent special education and 20% of bilingual special education teachers do not hold appropriate certifications *(Teacher Supply and Demand in New York City, 2007).*

Unfortunately, the latest teacher training and certification statistics demonstrate that without a significant change, the shortage of adolescent special education teachers and bilingual special education teachers is likely to continue and grow more acute in the coming years. While the number of teaching certificates granted in adolescent special education in New York City has increased from three teachers issued adolescent special education certificates in the year of 2003-2004 to 391 in 2005-2006 *(Teacher Supply and Demand in New York City, 2007),* the official report on teacher supply and demand in New York State maintains that one of the areas of most need in New York City in providing certified teachers is middle and secondary special education *(Teacher Supply and Demand in New York State, 2007).* While 47% of students with disabilities in New York State are in grades 7-12, only 19.5% of new certificates in special education are granted for that development level *(Evaluation of the Regents Teaching Policy: Reexamining the Special Education Teacher Preparation and Certification Structure, 2007).*

Project Design

The project design is a comprehensive discussion of how you will address the problem. It is the heart of your proposal, and is sometimes referred to as the research plan, the project description, the approach, or the proposal narrative, depending on the funding agency. The design section contains subsections for objectives, work-plan, time line, activities, and methods. All funders are especially interested in how well you have defined measurable objectives and their expected outcomes. Reviewers usually report that proposers confuse goals and objectives. Objectives should be specific and usually seek to increase or decrease some phenomenon, such as "Increase the number of certified special education teachers in District 1 by 25%;" "Increase the number of female undergraduates majoring in computer science;" "Increase the rate of mammography screenings for women of color." If possible and applicable to your proposal, your objectives should indicate the time frame and the amount of increase/decrease involved. Some guiding questions for writing objectives are:

- Do your objectives indicate precisely what will change because of your project?
- Do they indicate the time frame involved?
- Do they logically follow one another?
- Do they indicate what you would accept as proof of project success?
- Are they measurable?

The project design or description also contains the workplan—the methods and activities—you will use to achieve your objectives. Many federal agencies ask for a person-loading chart or time line and responsibilities

in this section or in the management plan. You should describe your activities in narrative form, and then in an abbreviated chart or table that lists the responsible project staff and dates for implementation/completion of the activities. Writing in this chart/table form will help you to think through what you need to do to get your project started and keep it running smoothly.

SAMPLE Project Design

Hypotheses

The common mechanism of "sickness behavior" includes depressive malaise or anxious distress and a cascade of physical symptoms during illness-related pro inflammatory cyokine production **[8]**, which would support the overall hypothesis of this proposal that two or three physical symptoms co-occur (either simultaneously or in rapid succession) and predict the mental health symptoms of depression or anxiety. This combination of at least two physical symptoms and a mental health symptom outcome satisfies a conceptual definition of a symptom cluster, in that it consists of three or more concurrent symptoms, in contrast to a symptom pair of two concurrent symptoms **[1].**

We will investigate the extent that pain, dyspnea, and fatigue (specifically, anemia-related fatigue versus nonanemia fatigue) occur together, and separately with depression and then anxiety, as symptom clusters that are unique to each of two nonmalignant conditions (CHF and COPD) versus as a generalized effect across a set of nine disease conditions. Beyond the individual effects of pain, dyspnea, and fatigue-related symptoms (i.e., anemia-related fatigue, nonanemia-related fatigue), symptom interactions involving two or more of these physical symptoms are hypothesized to predict 1) co-occurring depression; and 2) co-occurring anxiety. When statistically significant, each interaction will be probed to determine the nature of its relationship with co-occurring depression or anxiety. Note that the symptom cluster relationship consists of the interacting physical symptoms, along with the co-occurring mental health symptom (dependent variable), even as the co-occurring mental health symptom is a correlative outcome (y) of the multiple regression.

This hypothesis needs further clarification. Since fatigue is nonspecific and typically highly prevalent **[17]**, it maybe conceptualized as a "medium" in which more specific or localized symptoms, such as pain and dyspnea, are sustained **[28]**. Therefore, the fatigue-related symptoms will be tested as moderators of depression-pain and depression-dyspnea relationships. As such, it is hypothesized that the separate relationships between depression and pain, and between depression and dyspnea, will be magnified by fatigue-related symptoms that make up the respective interaction term. On the other hand, we allow that fatigue-related symptoms may buffer these relationships. When uncontrolled pain or dyspnea is experienced continuously (i.e., in these circumstances, co-occurring fatigue could actually help patients cope better with unrelenting symptoms). These hypotheses are based on findings from the literature across five nonmalignant conditions **[16]**, and by similar symptom interactions from the PI's prior findings in cancer outpatients **[8]**. However, it remains to be demonstrated whether all three physical symptoms (pain, dyspnea, and either anemia-related fatigue or nonanemia fatigue) tend to co-occur in some patients and/or whether any two of these symptoms tend to co-occur in others. Moreover, does this overall pattern remain consistent across the set of nine disease conditions, or does it differ for CHF or COPD? The current study will be the first, to our knowledge, to address this issue.

Symptom clusters involving nausea and fever detected in the PI's prior findings across cancer conditions **[8]** will also be tested as exploratory hypotheses across the five non metastatic conditions. We will test whether the depression-pain and depression-nausea relationships are magnified by fever in CHF, COPD, or the set of nine disease conditions.

Finally, in CHF, COPD, and the set of nine disease conditions, we will test separate interactions involving demographic variables (gender, age) with pairs of physical symptoms as predictors of co-occurring depression or anxiety. These exploratory analyses will further qualify whether these pairs of physical symptoms tend to occur in specific subgroups and may yield insights into etiology and common pathways. In particular, age (<65, 65+) is an important moderator because as age advances, patients experience different physiological reactions that influence symptom clusters, and in addition, are more likely to contend with multiple

conditions and side effects from poly pharmacy **[29]**.

SAMPLE Project Design 2

There are six key components of the Transition to Teaching project plan:

- Recruit highly qualified applicants for programs in adolescent special education and bilingual childhood special education
- Provide teacher candidates with an integrated, accelerated teacher preparation program
- Support teacher candidates in gaining job placement in a high-needs school
- Provide support services to pre-service and in-service participants
- Assist candidates in the process of achieving New York State certification in the multiple areas that they have been prepared to teach
- Build the capacity of the Ruth S. Ammon School of Education to prepare teacher candidates in special education and further support the goal of the New York State Education Department to address teacher shortage areas in the region.

Recruiting and Selecting Highly Qualified Applicants

A key focus of the Adelphi Transition to Teaching Program is the recruitment and selection of highly qualified applicants who have the knowledge, skills, and commitment to teach special education students in high-needs schools. In years one through three of the grant, our goal is to recruit 30 teacher candidates each year with a total induction of 90 candidates. While the number of teacher candidates in each of the two certification areas may vary depending on the results of our recruitment, our goal is to have half the program cohort each year be candidates in bilingual childhood special education and half candidates for adolescent special education.

Bilingual childhood special education candidates must have high levels of proficiency in English and an additional language that is frequently spoken in New York City such as Spanish, Chinese, or Haitian Creole. Our major recruitment target for this part of our program is District 75 paraprofessionals with bachelor's degrees and appropriate language skills and content knowledge. For these candidates, years of work in District 75 has given them invaluable skills and experiences in dealing with the specific needs of special education students with multiple disabilities. They have also already demonstrated their commitment to the profession through their positions assisting monolingual special education teachers in understanding the linguistic and cultural needs of the students in the classrooms where they work. D75 has surprisingly low turnover rates, and we are confident that these teacher candidates will remain in the District.

Adolescent special education candidates must meet the prerequisite of 30 credits or a major in a specific content area required for the program, and the patience and ingenuity to share their content expertise with special needs students. There are two recruiting targets for this program. First, we will recruit recent college graduates who did not major in education, but have a desire to work with adolescents with special needs. We will especially focus on students with liberal arts and sciences degrees with majors in the STEM (science, technology, engineering, and mathematics) fields. Our second target for the recruitment of teacher candidates for the adolescent special education program is mid-career professionals who have a college major or 30 credits in a liberal arts and sciences major

Project Personnel

In this section, you are expected to describe the qualifications, training, and experience of the key personnel involved in the project. You should highlight the educational qualifications, specialized training/knowledge,

and participation on similar grant-funded projects of the proposed project staff. You can also discuss the University's capabilities, resources, and reputation in the given area of study.

SAMPLE Project Personnel

Leadership Team: The Principal Investigator of the project is **Dr. X,** who leads the School's efforts in the area of University-Community Partnerships and oversees the design, evaluation, and implementation of numerous projects both within the school and the community. He has an extensive background in the formation and implementation of lasting partnerships with Long Island's human service community and presently serves as the Principal Investigator of a funded project to promote community partnerships for service and leadership in gerontology, as well as a funded project that is investigating the geriatric mental health needs of senior citizens in Suffolk County (both projects are granted by national foundations).

Dr. Y is the Co-Principal Investigator on the project and will coordinate and oversee evaluation activities. **Dr. Y** is an expert in adolescent development and has served as the Principal Investigator and Co-Principal Investigator on federal and foundation grants in the area of economically disadvantaged and high-risk youth.

Dr. Z who will conduct the evaluation is an expert in adolescent and young adult risk behavior and has engaged in grant funded research on such topics as adolescent substance abuse, intimate partner violence, and HIV sexual risk behavior in young men.

Ms. A will serve as the **Project Coordinator**, supervising the **Program Director (TBA)** and reporting to the Principal Investigator. **Ms. A** is the former director of a technical assistance service that provided resources to strengthen and support the management of nonprofit organizations. Previously, she served as director of the Nonprofit Resource Center of the Community Foundation of Broward County. For over twenty years, **Ms. A** has served as an adviser and consultant to over 500 organizations and nonprofit boards (primarily with FCBOs) on issues as varied as leadership transition, board training and development, marketing, fundraising, and strategic planning. Her experience with both grantor and grantee organizations, allows the LI Center to deliver services attuned to both sides of Long Island's nonprofit sector.

The LI Center has assembled a group of consultants who will join us in providing intensive technical assistance. Among the consultants are: **Ms. B**, a consultant on all aspects of fundraising, financial management, board and staff oversight. She is particularly successful with growing constituency support. **Ms. C** has 20 years of experience in the design and delivery of training material related to cultural diversity, organizational and staff development. Her focus is primarily health and human service agencies. Formerly, Ms. C worked for ....., managing a HIV counseling and testing program. **Ms. D** brings expertise in governance and leadership development, human resources, strategic planning and operations management.

Intensive technical assistance provided by **Ms. A** and the consultant team, will be further supported by a team of **Enhanced Technical Support Providers (ETSPs)** comprised of graduate level student interns. ETSPs will work collaboratively with members of participating FCBOs to serve as a bridge between intensive TA sessions and to support organizations around specific activities and integrating and applying new knowledge and skills.

Management Plan

The funder wants to ensure the smooth operation of the project, so the management section should describe the roles, responsibilities, and time commitments of the project staff. It details an effective system for decision-making and project governance. If there are partner institutions, it explains how the various institutions will interact. This section may be combined with project personnel descriptions; however, the difference here is you are concerned with detailing the actual work responsibilities of each member of the project and how these positions interact over time. Some projects create advisory boards, steering committees, or program liaisons to assist with the management of the project. This section will depend upon the nature of your project.

SAMPLE Management Plan

The PI will oversee the day-to-day progress of the project and will be responsible for the preparation of all progress reports for the advisory board, which will be implemented to oversee IBAM at Adelphi (described below), and for the NSF (National Science Foundation). Dr. XX will participate with other faculty in the joint-mentorship of the undergraduate research teams. This participation includes advising students as they prepare their original research for presentations or publication. In addition, she will be responsible for coordinating the development of course modules for use in BIO 111-112 (introductory biology) and for implementing faculty development workshops in the Department of Biology. She will also oversee the implementation of a biological mathematics seminar series, and participate in project evaluation and reporting.

An advisory board for IBAM will be established. It will consist of five faculty and support personnel, one person from outside the University (a high school teacher or biotechnology company representative), and the PI who will serve as Chair. The Advisory Committee will meet at least twice each semester and more frequently as needed. The committee will review progress reports by the PI as well as the annual budget for IBAM. It will also review reports required by NSF regulations to insure quality, and will review the final project report before it is submitted to NSF through the University's Director of Sponsored Programs. It will monitor benchmarks established for IBAM to make certain that the project is on track. Modifications to the program, if needed, will be made on the recommendation of committee members by consensus, and as approved by the NSF.

Drs. .... (as co-PIs) will participate in the joint-mentorship of the undergraduate research teams, will work on the design of the IBAM Web site, and will attend the monthly mentor meetings and monthly group meetings of the IBAM project participants. In order to expand the curriculum choices of students majoring in mathematics or biology, Dr. Y will undertake the overhaul of the undergraduate experimental design course that will be co-listed in both the Department of Biology and the Department of Mathematics and Computer Science. Dr. Z will oversee the development of a co-listed course in Mathematical Biology and will organize the student-run journal club. Drs. .... will be responsible for coordinating the development of course modules for use in MAT 141-142 (Calculus and Analytic Geometry) and implementing the faculty development workshops in the Department of Mathematics and Computer Science. All Co-PIs will take turns on the IBAM Selection Committee and Advisory Board, assist with IBAM recruitment and outreach to local high schools, and participate in project evaluation.

To facilitate communication and understanding within research teams, monthly group meetings of students and faculty mentors will be held to discuss project progress. In addition, an open journal club for project participants (as well as for other students and faculty members) will be held once a month to increase awareness of the applications of biological mathematics. As faculty and student participation may change over the duration of the project, attendance at the journal club, mentor meetings, and project meetings will be important mechanisms to bring new members of the project up to speed and provide a forum for these individuals to participate.

SAMPLE Timeline #1

Projected Timeline - Adelphi PPP Year 1*

	3/06	4/06	5/06	6/07	7/06	8/06	9/06	10/06	11/06	12/06	1/07	2/07	3/07	4/07	5/07
Recruit 2nd Year Students for PPP year 1	x	x													
Meet & Greet Day: agencies and students meet to consider possible matches for rotation 1			x												
Determine initial rotation assignment				x	x										
PPP Students take course SWK 729 (Selected Issues in Social Work Practice with Older Adults)						x	x	x	x	x					
PPP Orientation Meetings: Intro to PPP and pre-test on geriatric competencies; 1st Practicum Seminar; 1st Colloquium; didactic and experiential preparation for 1st Rotation; 1st meeting of field instructor seminar						x	x								
Rotation# 1 begins							x								
Faculty Field Liaison meets with student-field instructor dyad. Learning contract developed. Options for rotation 2 and 3 discussed.							x	x							
Faculty Field Liaison and Field Education Coordinator determine rotation 2 and 3 assignments.								x							
Education Day #1 (at PPP agency): Colloquia; Lunch; Practicum Seminar; Field Instructor Seminar								x							
Rotation #2 begins									x						
Education Day #2 (at PPP agency): Colloquia; Lunch; Practicum Seminar; Field Instructor Seminar									x						
Recruit 2nd Year Students for year 2 (including Social Work Month recruitment event												x	x		
Education Day #3 (at PPP agency): Colloquia; Lunch; Practicum Seminar; Field Instructor Seminar												x			
Rotation #3 begins												x			
Education Day #4 (at PPP agency): Colloquia; Lunch; Practicum Seminar; Field Instructor Seminar													x		
Education Day #5 (at PPP agency): Colloquia; Lunch; Practicum Seminar; Field Instructor Seminar														x	
RECOGNITION DAY (held at Adelphi) Adelphi PPP Cohort 1 recognition ceremony honoring PPP graduates and their field instructors. Luncheon for PPP students, field instructors, agencies and faculty															x

*** Timeline repeats for Year 2 and 3 of the project**
June and July activity will include data analysis, continuous assessment and improvement efforts

Sample Staff Time Commitments

Staff Title	Responsibilities	Experience and Qualifications	Days to the project
Project Co-Directors (combined 60% FTE to the project) District Liaisons	Coordination of program activities Conduct project orientation sessions Data collection for evaluation Recruitment correspondence Supervision of university project staff Public relations and awareness of project Program implementation Conduct monthly meetings Prepare quarterly evaluation reports Maintain budget Facilitate inter-district visits	Ph.D., in special education, and educational psychology respectively, experience working in urban schools, with special education; experience in university teaching, experience in program management.	102
Faculty/Clinical Supervisors District Directors of Pupil Personnel	Assist in staff recruitment Program implementation Data collection for evaluation Maintain open communication with program participants and university staff Make project visits at the University Facilitate inter-district visits	Ph.D., over 50 years of experience in pupil, personnel and special educational services	46
District Project Liaisons, Co-Directors, Faculty/Clinical Supervisors	Maintain open communication with program participants Facilitate curriculum development Support program efforts Disseminate and collect questionnaires and surveys	Master's in Special Education, 5–10 years experience serving at risk, special needs populations.	46
Project, Co-Directors, and Evaluator	Maintain open communication and provide ongoing feedback on progress Document findings Prepare the Annual Performance Report	Advanced degree; experience in research and evaluation, experience in education	3

Evaluation Plan

Did the project accomplish what it set out to do? What were the project outcomes? How will the applicant and the funding agency know what the project accomplished? All funders require an evaluation plan to answer these questions, and many now want a logic model for the evaluation. Your evaluation section should describe in detail what your questions are, what the data sources are, and the methods to be used in collecting and analyzing the data. Whether you use an internal or external evaluator, involve that person in planning and writing the evaluation section. Your evaluator should also help you to compile your quarterly or annual reports to the funder.

When should you use an external evaluator? Some funders require an outside evaluator, someone with expertise in the given area and who can be impartial. The key qualifications are expertise and objectivity. In general, the more complex the project, the more likely you will need the services of an external evaluator. However, universities have many resources, and there may be faculty from other schools/departments who have both the capability and the neutrality required for the evaluation.

SAMPLE Evaluation Plan #1

4a. Methods for Evaluation

Evaluation for this project will include both quantitative and qualitative evaluation measures which will measure short, intermediate and long-term outcomes. Data will be collected and analyzed yearly, with additional data collection occurring at the mid-term evaluation of the grant in year three and final evaluation in year five. Evaluation data will also be used to guide continuous program improvement. Multiple quantitative and qualitative methodologies will be used to provide data that will answer specific research questions. These methodologies will include pre- and post-surveys, focus groups, observation, and artifact analysis. The evaluation will be conducted by an outside evaluator who will develop and refine research instruments including written surveys, focus group protocols, and analyze all data. There are four main questions which will guide the evaluation.

1. To what extent is the project meeting its goals to:

- Recruit qualified applicants for the Transition to Teaching program
- Provide applicants with an integrated, accelerated teacher preparation program;
- Provide support services including mentoring to grant participants as pre-service and in-service teachers;
- Assist candidates to pass certification exams and;
- Build the capacity of Adelphi University to continue to prepare teacher candidates in special education.

2. What types of support do teacher candidates, especially paraprofessionals and non-traditional students, require to succeed in the academic program and achieve certification?
3. What types of support do teacher candidates require to be successful in their initial years of teaching in high-needs schools in New York City?
4. To what extent does this project align with "best practice" and quality indicators for teacher preparation and how could these new integrated teacher preparation programs in special education be improved or streamlined?

In order to evaluate candidate progress, quantitative data will be collected each semester. These quantitative data include:

- Teacher candidate course grades
- Rubric scores of major assignments and candidate disposition,
- Attendance and participation in support services
- Scores on certification tests, including LAST, ATS-W, and CST
- Number of candidates who achieve state certification

• Number of candidates who are teaching in high needs schools.

These data will be analyzed by project staff each semester and will be used to detect potential problems experienced by individual students and offer additional support, and to consider the additional supports that might be useful to future cohorts of participants. Instruments have already been developed for these quantitative measures and records will be maintained in an excel spreadsheet for each of the cohort classes by the program secretary under the supervision of the Project Director.

Qualitative data will be collected throughout the project period in order to evaluate candidate progress, assess project impact, and guide project improvement. Qualitative data include:

• Pre-surveys with all teacher candidates upon entry into program.

• Post-surveys with all teacher candidates prior to their exit from their M.A. program and at the end of their participation in the mentoring component of the program.

• Focus groups will be held with the first and second year cohorts at two points–completion of pre-service training (in project years 3 and 4) and completion of 1st year of teaching (in project years 4 and 5). In order to ensure that candidates are candid about their experience, an external focus group facilitator will be hired for this purpose.

• Artifact analysis of the student work in the M.A. program and artifacts collected on the Moodle electronic sites used during the in-service mentoring component of the program. The key assessments from the M.A. program will include an original unit plan, a philosophy of teaching, an assessment case study, an assessment of teaching skills using the standardized Pathwise teaching measure, and a teacher work sample documenting the teacher's effectiveness in classroom teaching.

• Observation and anecdotal comments from faculty advisor and professors from program tracking forms and mentoring visits.

Pre-surveys will be developed prior to project year 1 and completed by participants in an orientation meeting. Post-surveys and focus group protocol will be developed in year 1.

SAMPLE Evaluation Plan #2

Although project budget limitations prohibit the use of an outside evaluator, IBAM will be subject to extensive internal review. IBAM will be assessed and evaluated by the Coordinator of Science/Mathematics Education as part of his normal job responsibilities. The Adelphi Office of Research, Assessment, and Planning will oversee the work of the Coordinator. Reports on the data and findings of the assessment for the Project will be written by the Coordinator of Science/Mathematics Education and will be given to the PI for presentation and updating at each meeting of the Advisory Committee. Metrics such as GPA data, number of biology and mathematics majors supported, the research fields served, and demographic data will be collected. The impact of IBAM at Adelphi will be assessed via attendance at seminars and journal clubs, and participation of students in institutional and national research meetings, and publications in peer-reviewed journals. GRE scores, graduate school acceptance, and job placement data will be gathered after student graduation. Comparisons will be made between IBAM and non-IBAM students, although it is understood that the statistical significance with eight students in the project is limited. General trends will be analyzed and included in the final report. IBAM students will be tracked via email and telephone interview for an additional two years after graduation to determine their progress in graduate school and other career paths. A survey will be developed by the research mentors, PI, and Coordinator for this purpose and used each year with the graduates. It is anticipated that the survey will offer some insights into IBAM and will be used to help improve Adelphi's programs.

The IBAM project will be evaluated using a mixed-method approach, including structured observation, surveys of student and faculty participants, test questions about modules given as part of introductory course examinations, and document studies of materials produced by the student research teams—including posters, PowerPoint presentations, capstone papers, honor theses, and publications in peer-reviewed journals. The overall success of the project will be performed using the following project benchmarks:

Sample Evaluation Chart

DATA	PROJECT GOAL	TIME OF COLLECTION	METHODS	INSTRUMENTS DEVELOPED	DATA ANALYSES	REPORTS
Self-Concept Questionnaire	Goal 1	Fall 2007 (baseline), annually June 2008--2010	First and June mentor meetings to mentees; comparison students; collected and evaluated by project evaluator	Questionnaire adapted from Harter Self-Perception Scale (see below) by evaluator—summer 2007	Analysis of Covariance (ANCOVA) of self-concept score changes for mentees versus comparison	Annual report to Advisory Committee and USDOE
Attitudes Survey	Goal 1	Fall 2007 (baseline), annually June 2008--2010	First and June mentor meetings to mentees; comparison students; collected and evaluated by project evaluator	Attitude survey towards community (see below) by evaluator—summer 2007	ANCOVA of attitude score changes for mentees versus comparison	Annual report to Advisory Committee and USDOE
Leadership Portfolio Rubric	Goal 1	January/June of each project year—2008-2010	Rubric scores of leadership from written work—mentors and mentees—and shared in conference; collected by project evaluator	Rubric developed by trainers, mentors, mentees—fall 2007	Descriptive statistical analyses, evaluating individual and group mentee score changes of leadership	Annual report to Advisory Committee and USDOE
Mentor Checklist of mentee completion of objectives/ self- confidence	Goal 1	June of each project year—2008-2010	Checklist by mentors based on meetings/ activities with mentees and shared in conference; collected by evaluator	Checklist developed by trainers and mentors—fall 2007	Descriptive statistical analyses, evaluating individual and group mentee score changes on checklist	Annual report to Advisory Committee and USDOE
Mentor Checklist of mentee completion of objectives	Goal 2	June of each project year—2008-2010	Checklist by mentors based on meetings/ activities with mentees and shared in conference; collected by evaluator	Checklist developed by trainers and mentors—fall 2007	Descriptive statistical analyses, evaluating individual and group mentee score changes on checklist	Annual report to Advisory Committee and USDOE
Attendance records of mentees—mentor meetings	Goal 2	January/June of each project year – 2008-2010	Attendance recorded by sponsoring organizations/ mentors on daily basis; collected by evaluator	Not applicable	Descriptive statistical analyses, evaluating individual and group mentee attendance	Midyear/annual report to Advisory Committee; annual report to USDOE

Dissemination Plan

Funders are interested in sponsoring your work because of its potential for being a national model, or for benefiting a large number of people or organizations. Therefore, it is important to have an appropriate plan for letting others know about your project and its results. It is important to provide others with the knowledge and resources that will enable them to replicate/adapt your project or use its results.

SAMPLE Dissemination Plan

The results of the project will be disseminated through journals and presentations at state and national meetings. During Year 1 of the project, a cumulative and ongoing list will be developed of potential publication sites and local, state and national meetings. The Diversity Project Coordinator and Project Director will assume the major responsibility for developing and coordinating these efforts. Working with the project staff and faculty, articles describing the project in its preliminary and final stages will be submitted for publication to discipline journals. Each year of the project, the formative evaluation results will be described narratively with supporting figural representations of the data and sent to general interest journals such as the *Journal of Nursing Education, American Journal of Nursing, Issues in Nursing, Image: Journal of Nursing Scholarship,* and *Nursing and Health Care Perspectives,* and specialty interest journals such as *Nursing Case Management* and the *Journal of Gerontological Nursing.* In addition, periodicals such as the *Minority Nurse Magazine,* the Black Nurses Association newsletter, and the Hispanic Nurses Association newsletter will be contacted as potential sites for publication. In addition to print media, online sources will also be identified for dissemination of

project data.

A CD-ROM version of the project description and project results from Year 1, Year 2, Year 3 and the final project report will be developed serially and distributed to state schools of nursing throughout the United States. State Boards of Nursing will also be targeted. These data will also be posted on the School of Nursing Web site. A project newsletter will be developed and distributed quarterly. The newsletter will highlight stories of the student participants as well as data from the project. As the project matures, additional items will be added to describe the project activities, participant experiences and opinions, lessons learned, suggestions for incorporating some of the approaches and activities into existing efforts of schools of nursing, etc. Each newsletter will include an article by the Project Director and one by the Diversity Project Coordinator. Project staff and faculty will be encouraged to make contributions as well. The newsletter will be distributed at the state and national level.

Sustainability

If you think about proposals from a funding agency's point of view, why would they support your project, what are they interested in doing? They are interested in backing proposals that have long-range benefits and can be replicated by others. So, you will need to develop a plan to maintain the project after the grant ends. The more specific you can be, the better. Although this is not easy, there are ways that a research project or service delivery program can be institutionalized.

SAMPLE Sustainability #1

The University has been a participant in the Intensive Teacher Institute Program in Bilingual Special Education supported by NYS VESID. They provide partial funding for uncertified bilingual teachers and paraprofessionals. We have always used this program in conjunction with federal funds to maximize funding and graduate as many new teachers as possible. This collaboration has assisted both Adelphi and the District to build capacity and experience in bilingual special education when federal funding has ended. Another unique development has resulted from our collaboration, the development of a 58-credit Master of Arts degree in Bilingual Childhood Special Education which is being finalized and presented to the State for approval. Adelphi will be one of only two programs in the State to offer this degree. None of this could have taken place without the interagency collaborations among the NYCDOE, District 75/Citywide programs, the New York State Education Department's Intensive Teacher Institute Program in Bilingual Special Education (NYSED-VESID) and OELA. Participating paraprofessionals in CASE will have the option of enrolling in this new program.

In addition, the professional development workshops will lead to increased capacity for the district and long-term benefits to teachers and students. Workshops include: 1.using ESL strategies in the special education classroom, 2. Enhancing literacy for the ELL student, 3. Understanding first and second language acquisition in the context of severe disabling conditions, 4. Incorporating the student's culture in the curriculum, and 5. Integrating technology in the classroom to teach English, math, and enhance literacy. These workshops were developed with District 75 staff and are designed to meet their specific needs. In addition, project staff will conduct on-site visits to observe classrooms, meet with teachers and paraprofessionals and establish mentoring partnerships. Project staff will seek to encourage an atmosphere of collegiality and community among the project cohorts. The faculty will teach credit bearing courses leading to TESOL certification

SAMPLE Sustainability #2

Adelphi University and Wright State University have made prior commitments to math and sciences education at both elementary and secondary levels, and have or currently are managing federally sponsored grants intended to improve the preparation of teachers and students in mathematics and science. The response of school districts to this project has been overwhelming, and given the need and the response, the universities have made commitments to creating and maintaining CSI or a program similar to CSI once project funding ends. As an example of Adelphi's commitment to math/science education and teacher, the president created and funded a coordinator of math/science education, a coordinator to liaise with the New York City Department of Education to recruit and prepare highly qualified career changers to obtain their

master's and teach math or science in high-need City schools. Adelphi had also been a partner with New York City in its Teaching Fellows program.

Budget

The budget section should include a detailed account of expenditures along with a budget justification that substantiates your expenses. The budget should provide the reviewer with information about how you arrived at each budget item, but more importantly, the budget reflects your proposal and should be related to project activities. For example, if you are requesting tuition remission or salaries for students, then their roles on the project should be described in the narrative activities and in the project personnel section. Increasingly, foundations and government funders are either requiring matching funds or suggesting there should be additional sources of support for the project. Matching funds or cost sharing refers to the contributions your organization is making to the project; this may be tuition remission for students, non-reimbursed PI/PD time, and conference or meeting space. The grants accountant and the OSP are always available to assist you with the budget or budget justification. As noted earlier in this *Handbook*, budget approval by the Treasurer's Office is required before the Provost reviews the proposal.

Indirect cost rate or F&A (facilities and administrative) costs refer to those costs incurred by an institution, such as payroll and accounting for grant personnel, office space, lighting, etc., that are difficult to quantify. Nonprofit organizations have federally negotiated and approved F&A rates. The approved F&A rate for Adelphi is 67.4% of salaries only. Funders sometimes stipulate the amount of indirect they are willing to allow and the university has been open to supporting well-designed projects.

SAMPLE Budget Justification

Senior Personnel
The PI and Co-PI will work full-time on grant-related projects during the summers of 2008 and 2009, and will work at least one-quarter of the time on grant-related projects during both academic years. PI and Co-PI will share all research responsibilities, including literature review, study design, data collection, data analysis, and write-up of results for presentation and publication.

The PI and Co-PI are requesting one course release each during the grant period; these course releases are calculated as 10% of academic year salary per three credits. PI and Co-PI salaries for 2008-2009 are calculated including 5% salary increases each academic year.

Graduate students
One graduate student from Adelphi will be hired and trained to help coordinate the research team, and to assist with data collection, data analysis, and write-up of findings for presentation and publication during the academic year and summer months. She/he will be paid $15 per hour for 10 hours per week, for 28 weeks during the academic year or $4,200 plus a $6,000 stipend for work during the summer.

Undergraduate Students
Two upper-level undergraduate psychology majors will be hired and trained to recruit participants, collect data, and assist with data analysis during the academic year. They will be compensated at $8 per hour/10 hours per week for 28 weeks during the academic year ($4,480) plus $3,000 during the summer, for a total request of $7,480.

Consultant
Dr. XX will act as consultant, and coordinate fMRI data collection for Study 5 plus follow-up, which will take place in the Department of Neurology at the Penn State Milton S. Hershey Medical Center in Hershey, PA (approximately 15 miles from Elizabethtown). Dr. XX is experienced in collecting and analyzing fMRI data, and has published extensively on neural substrates of memory, pattern recognition (including facial recognition), spatial perception, and frontal lobe involvement in decision-making and social judgment. He will receive a stipend of $6,000 for approximately 40 hours of grant-related activity.

Collection of fMRI Data
A clinical MRI scanner fitted with a high-performance local head gradient and RF coils, and outfitted with Eprime software and presentation media, is available in the Department of Neurology at Penn State Milton S. Hershey Medical Center for completion of Study 5 plus follow-up. Costs for using the scanner are $600 per hour, which includes use of the equipment and payment of an on-site technician experienced in collecting neuroimaging data. Total costs for scanner use will be approximately $6,600 (11 participants @ $600 each = $6,600).

No major equipment exceeding $5,000 is requested.

Travel
Travel funds will be used for the PI and Co-PI to attend two regional and national conferences, one each year, to present the results of the proposed research ($1,000 per person per conference; $4,000 total).

Participant Support Costs
Research participants in Studies 1-4 will be paid $7 each (280 participants @ $7 each = $1,960 total). Research participants in Study 5 plus follow-up will be paid $25 each (11 participants @ $25 each = $275 total).

Other Direct Costs
Estimated costs for two sets of reprints are included ($600 total). A five-computer site license for Eprime software ($3,000), which will be used to present stimuli and collect participant response data, is requested for Elizabethtown (Adelphi already has a site license for this software).

Indirect Costs for Student Salaries and Wages
Adelphi University's federally negotiated indirect rate is 71% of salaries only, excluding students.

ADELPHI UNIVERSITY
MENTAL IMAGERY AND THE MERE EXPOSURE EFFECT
NSF BUDGET FORM (1/1/08 - 12/31/09)

		YEAR 1 FUNDS REQUESTED		YEAR 2 FUNDS REQUESTED		TOTAL FUNDS REQUESTED	
1. PERSONNEL SALARIES:			$ 17,680		$ 17,680		$ 35,360
- Principal Investigator							
	- 10% of salary for 3 credits rel. time fall '09 only	$ -		$xxxxx		$xxxx	
	- summer stipend of 2/9th salary	xxxxx		$xxxxx		$xxxxx	
	- 5% yearly increase in salary						
- Graduate Assistant	- TBA (1)						
	- $15 per hour x 10 hours per week x 28 weeks academic year	4,200		4,200		8,400	
	- $6,000 stipend for summer work	6,000		6,000		12,000	
- Undergraduate Assistant	- TBA (2 academic year, 1 summer)						
	- $8 per hour x 10 hours per week x 28 weeks academic year	4,480		4,480		8,960	
	- $3,000 stipend for summer work	3,000		3,000		6,000	
2. FRINGE BENEFITS:	- 25.1% of PI's salary		6,000		7,500	13,500	
	TOTAL SALARIES AND FRINGE BENEFITS:		23,680		25,180		35,360
3. PARTICIPANT COSTS:	- Research subjects: UG - 140 x $7 FMRI - 8 year 1 and 3 year 2 x $25		1,180		1,055		2,235
4. SUPPLIES:			5,100		2,100		7,200
	- Printing costs:	300		300		600	
	- Scanning: 8 x $600 year 1, 3 x $600 year 2	4,800		1,800		6,600	
5. TRAVEL:	- 1 conference to be attended by PI		1,000		1,000		2,000
6. CONTRACTUAL:			69,235		47,470		116,705
	- Elizabethtown College (see attached for detail)	66,235		44,470		110,705	
	- Consultant: Eslinger	3,000		3,000		6,000	
7. TOTAL DIRECT COSTS:			100,195		76,805		163,500
8. INDIRECT COSTS:	- 67.4% of PI's salary		15,000		19,000		34,000
9. TOTAL COSTS:			$ 115,195		$ 95,805		$ 197,500

Appendices

In general, include only relevant appendices, such as résumés, letters of commitment, and samples of scholarly work. Although mentioned earlier, it bears repeating here: **follow the directions exactly as stated in the application**. Follow page limits, sentence spacing, margins, whether or not they ask for appendices, and then how many and what types of attachments, and include only what the funder requires.

Review Procedures and Sponsor Decision-Making

Foundations and federal agencies have comparable proposal review processes. A panel of experts is recruited from academia, medicine, education, etc., whatever the relevant discipline(s) may be. However, all the reviewers on a panel (four to seven members) may not have the same expertise, and they may not have specific knowledge of your research area. Therefore, you need to make your proposal as clear, concise, informative, and persuasive as possible. Reviewers generally look at whether a proposal focuses on important problems of national need, whether it relates to the sponsor's program goals, and whether the proposed work will lead to results with new knowledge or new applications of existing knowledge. In addition to these general criteria, sponsors may have their own requirements. For instance, the **National Science Foundation** reviews proposals according to the following criteria:

- **What is the intellectual merit of the proposed activity?**
  Reviewers are instructed to consider the importance of the proposal in advancing knowledge and understanding; the qualifications of the PI or team; the creativity, originality, and organization of the proposal; and access to sufficient resources for project success and effectiveness.

- **What are the broader impacts of the proposed activity?**
  Reviewers consider how well the activity advances discovery and understanding while promoting teaching, training, and learning; how well the proposal broadens the participation of underrepresented groups (e.g., gender, ethnicity, disability, etc.); will the results be disseminated broadly?

- **How well is research and education integrated?**

- **How well does the proposal integrate diversity and broad participation in activities?**

NSF has reiterated its commitment to ensuring the inclusion and participation of underrepresented groups in the projects it funds. NSF now requires that all proposals include a one-page summary that addresses each of the above criteria, the intellectual merit, the broader impacts, and the integration of research, education, and diversity.

The **National Institutes of Health** use the concepts of significance, approach, innovation, investigator, and environment to evaluate its applications.

- **Significance:** Does the study address an important problem? Does it advance scientific knowledge? What will be the effect of these studies on the concepts or methods in that field?

- **Approach:** Are the conceptual framework, design, methods, and analyses adequately developed, well-integrated, and appropriate to the aims of the project? Are potential problem areas acknowledged and are alternatives considered?

- **Innovation:** Does the project employ novel concepts, approaches, or methods? Are the aims (hypotheses) original and innovative? Does the project challenge paradigms, develop new methodologies?

- **Investigator:** Is the PI appropriately trained and capable of performing the proposed activities?

- **Environment:** Does the researcher(s) have access to resources necessary for the success of the project? Is there evidence of institutional support?

In addition to these, NIH considers how well you protect human participants and/or animals; if members of underrepresented groups, such as women, children, or minority group members are recruited for participation in the project (as appropriate to the goals of the research); and the reasonableness of the budget.

Proposal Scoring

Typically, proposals are scored and given priority ratings. This assessment is based on whether or not the project is sound on technical, scientific, or other grounds, and how well the proposal fits the agency's programs or goals. Although your proposal must receive a high score to be considered, it still does not guarantee funding. Funding is still contingent on the number of highly regarded proposals and the amount of funds available to the sponsoring agency. Whether a proposal is rejected or accepted, most sponsors will provide the Principal Investigator with feedback about the proposal that is often useful in refining your submission for the next funding cycle.

Given all the questions reviewers ask about proposals, there are many reasons why proposals are rejected. Some of the more common reasons given by sponsors include:

- Lack of originality/innovation
- Lack of a rationale or justification
- Unfocused project plan
- Lack of knowledge of current literature and practices in the field
- Uncertainty about the prospects of program continuation after funding ends
- Questions about the appropriateness of the research design and methods.

Final Comments

- Read and reread the sponsoring agency's instructions and follow these exactly.
- Talk to a program officer at the funding agency.
- Be aware of the deadline dates; these are absolutes and proposals not submitted on time are not reviewed by the funder.
- Keep in mind that your proposal and budget must be submitted to the Provost's Office seven working days prior to the agency deadline.
- Working with partners will take time; you will need to obtain letters of commitment from them, and may also have to go through their own internal approval processes (this always takes more time than anticipated).
- Give yourself enough time for final editing and review.
- Work on your budget fairly early; your budget may need one or two revisions.
- Organize your proposal; use headings, subheadings, and page numbers in considering your proposal's appearance.
- Most funders now require online submissions; give yourself and ORSP enough time to be comfortable with the site.
- **Consult with your Office of Research and Sponsored Programs—we are here to help!**

References

Bauer, David, (1988), *The "HOW TO" Grants Manual*, American Council on Education/Macmillan Publishing Company.

Columbia University, the Office of Projects and Grants, *Proposals for Sponsored Projects: An Information Guide for Prospective Project Directors.*

Geever, Jane & McNeil, Patricia, (1997) *Guide To Proposal Writing*, The Foundation Center.

Hale, Phale, (1992), *Writing Grant Proposals that WIN!*, Capital Publications.

Hall, Mary, & Howlett, Susan (2003), *Getting Funded: The Complete Guide to Writing Grant Proposals*, 4th Edition, Portland State University Extended Studies Continuing Education Press.

Hoffman, Robert & Schroeder, Carol (1997), *Grant Writing Handbook*, Adelphi University.

Locke, L., Spirduso, W., Silverman, S. (1987), *Proposals That Work*, Sage Publications.

National Science Foundation, NSF 03-02, *October 2004 Grant Proposal Guide*.

National Institutes of Health, *NIH Grants Policy Statement* (2003).

Oryx Press, *Grants Collection: A Guide to Proposal Planning and Writing* (2000).

Rockefeller University, Office of Sponsored Programs Administration, *Investigator's Handbook: A Guide for the Submission of Sponsored Research*.

Steiner, Richard, (1987), *Total Proposal Building*, Trestletree Publications.

Sources of Information

American Council on Education (1995). *The Complete Grants Sourcebook on Higher Education*. New York: Free Press.

Barber, P. (1993). *Getting Your Grant*. New York: NealSchuman.

Beggs, M. (1995). *No Strings Attached Grant Program*. San Francisco: San Francisco Study Center.

Chelekis, G. (1993). *The Action Guide to Government Grants*. Berkeley, CA: Berkeley Publications.

Decker, L. E., & Decker, V. A. (1997). *Grant Seeking*. Communications Collaborators, Inc.

Foundation Center (2004). *The Foundation Directory*. New York: The Foundation Center.

Freschlting, J., & Sharp, W. (eds.) (1997). *User-Friendly Handbook for Mixed Method Evaluations*. Arlington, Virginia: National Science Foundation.

Freschlting, J., (2002). *The 2002 User-Friendly Handbook for Project Evaluations*. Arlington, VA: National Science Foundation.

Geever, J. & McNeill, P. (1997) *Guide to Proposal Writing*. New York: The Foundation Center.

Giflin, L. N., & Lyons, K. J. (1996). *Successful Grant Writing*. New York: Springer.

Hayes, L., Hoffman, D. Lamoreaux, D. (2004). *Winning Strategies for Developing Grant Proposals*. Tampa, FL: Thompson Publishing Group.

High, G. R. (1991). *Getting Funded*. Austin: University of Texas.

Kirk, I. E. (1992). *Federal Education Grants*. SLK, Inc.

Lauffer, A. (1997). *Grantsmanship*. New York: Sage.

Lesko, M. (1994). *Getting Yours: The Complete Guide to Government Money*. New York: Viking Penguin.

Locke, L. Spirduso, W., & Silverman, S. (1987). *Proposals that Work*. Newbury Park, California: Sage Publications, Inc.

NSF Grant Proposal Guide (GP) (NSF 04-23). 2004. Arlington: Virginia: National Science Foundation.

Miner, L. E., & Griffith, J. (1993). *Proposal Planning and Writing*. Phoenix, AZ: Oryx Press.

Morris, J. M., & Adler, L. (Eds.) (1996). *Grant Seeker's Guide*. Emeryville, CA: Moyer Bell.

Ries, J. B. (1995). *Applying for Research Funding*. Thousand Oaks, CA: Sage.

Sternberg, R. J. (1993). *The Psychologist's Companion: A Guide to Scientific Writing*. Cambridge: Cambridge University Press.