Grant Writing Checklist　　　　　　　　　　　　　　　　March 2022

Purpose:　　　To understand and consider important aspects to writing a grant application.

Before You Begin

† Do I know the field and its literature well?

† Do I know what other projects in my field are being funded?

† Is the field overpopulated with researchers?

† Did I check the literature to make sure the project I'm considering has not been done before, or has been done and its methods judged inadequate?

† Did I brainstorm ideas with colleagues and mentors?

† Did I check to see if my idea matches the sponsor's mission and initiatives, including any high-priority areas?

† Did I discuss my proposal with the sponsor program staff?

† Do I know what resources and support ORSP has　ZZZ PDUTXHWWH HGX RUVS , and what other support

† Do I know what institutional deadlines I must meet – department, college, ORSP?

† Am I giving myself plenty of time to write the application, at least three to six months?

† Have I asked a few of my colleagues to participate in a quality circle review so that I can get ideas along with feedback on the concept, planning, and writing stages of my application?

Documentation

† Have I started in application in Kuali or notified ORSP project planning and development (orspppd@marquette.edu)

† Will I be doing human subjects research? Have I considered IRB requirements?

† Will I be using research animals? Have I considered IACUUC requirements?

† Will I be doing research using rDNA or hazardous or controlled substances? Have I considered Biosafety requirements?

† Have I carefully considered any special requirements in the program announcement or request for proposals?

New Investigators

† Have I balanced my lack of publications with more biographical information?

† Have I outlined attainable goals that will match my level of experience?

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† Have I brought in (if possible, well-known) collaborators or consultants to fill gaps in my expertise and resources?

† Am I showing a solid understanding of the literature and recognition of the strengths and weaknesses of my methods?

† Am I attempting an appropriate amount of work and not too much for my research grant? Would reviewers consider it to be overly ambitious?

Research Plan: Hypothesis

† Is my proposal driven by a strong hypothesis?

† Have I defined specifically what I am setting out to prove?

† Is the central research question important to the field?

† Is the hypothesis testable by current methods?

† Did I state my hypothesis in the proposal abstract, specific aims and research strategy sections? If not organized that way, have , stated my hypothesis, objectives and significance on the first page?

† Is my idea focused enough? Is it provable during my award period and with the resources I am requesting?

Research Plan: Planning
Answer these questions when you develop your research plan

† Does my project address each of the sponsor's review criteria?

† Does my research approach answer the question posed by my hypothesis?

† Does my project have a coherent direction?

† Are the aims of the project I am considering achievable?

† Does my project have a central focus?

† Have I kept myself from being too innovative? Can I justify my innovations with sound reasoning?

† Have I checked my project against common research problems that might keep me from getting funded?

†

Research Plan: Specific Aims/Objectives

† Have I written this section in clear, non-technical terms?

† Have I begun this section by stating the general purpose or objectives of my research?

† Have I limited myself to three or four specific aims/objectives?

† Do my specific aims and objectives support and test my hypothesis?

† Are they tightly focused?

† Did I present alternatives to my hypothe

Design and Methods: General

† Does each activity correspond to one of the aims/objectives, and are they stated in the same order?

† Do the activities follow a logical sequence?

† Did I offer a timetable showing how and when I will accomplish my aims/objectives, including any overlap of experiments and alternative paths?

† Did I use flow charts and decision trees to show paths of activities and how they will progress?

† Did I estimate what I expect to accomplish each year and state foreseeable delays/roadblocks?

† Did I describe any hazardous procedures, situations, or materials, as well as appropriate precautions?

† Did I include supporting data?

† Have I included sufficient detail to show I understand and can handle the research?

† Have I only included information that is needed to state my case, i.e., have I avoided including anything I don't plan

Design and Methods: Results

† Did I show I am aware of the limits to and value of the kinds of results I expect?

† Have I convinced reviewers I will be able to interpret my results?

† Have I enlisted help from a statistician, if needed, and discussed statistical methods to be used?

† Did I define the criteria for evaluating the success or failure of a specific test? Do I have an external evaluator on the project team?

† Did I state the conditions under which my experimental data would support or contradict my hypothesis?

† Did I state the limits I will observe in interpreting results?

† Have I kept in mind any page limitation for this section?

Other Support

† Have I shown that no other organization is supporting the research I've outlined in my research plan?

† Have I let the sponsor know of any other grant support I or any of my key personnel have

† Do I include transitions to show the relationship between my ideas, using words such as: furthermore, additionally, in other words, in another area, in contrast, following the same path, and moving to the next stage (but not in excess)?

† Do I keep related ideas and information together, e.g., put clauses and phrases as close as possible to (preferably right after) the words they modify?

† Do I use strong, active verbs? Do I avoid passive verbs? (i.e. "We will develop a cell line," not "A cell line will be developed.")

† Do I use verbs instead of abstract nouns ending in "ion" and "ment"? (i.e. say "creating the assay leads to..." rather than "the creation of the assay leads to...")

Writing: Editing and Proofreading

† Have I edited and proofread the application thoroughly several times after giving myself a few days away from it to gain perspective?

† Have I eliminated redundant words and phrases?

† Have I checked all my information and data for consistency?

† Have I reviewed my conclusions to see if my supporting facts might lead a reader to different conclusions?

† Did I have several colleagues critique the application on the writing and presentation?

† Have I gotten editorial help from a nonscientist with a strong writing background? (Such help is available through ORSP.)

† Have I supported all facts with citations?

† Have I avoided using URLs for source material in my application?

† Have I checked my table of contents to make sure that all the items and page numbers correspond to those in the body of my application?

† Do I have a clear, concise, but interesting title that describes my project and will get the attention of the readers?

Revising and Resubmitting

† Did I read the summary and comments, and identify the problems?

† Did I address reviewers' comments point by point, identifying changes clearly?

† If I disagreed with the reviewers, did I explain why and provide additional information?

† Did I follow the sponsor's instructions?

† Did I include any new findings I have had since I sent in the initial application?

Common Research Problems

Below we list the most common reasons cited by reviewers of research proposals for an application's failure to gain an award. Review this list and make sure none of these items apply to your idea.

ƒ Problem not important enough.

ƒ Study not likely to produce useful information.

ƒ Studies based on a shaky hypothesis or data.

ƒ Alternative hypotheses not considered.

Methods unsuited to the objective.

- ƒ Problem more complex than investigator appears to realize.
- ƒ Not significant to health-related research.
- ƒ Too little detail in the research plan to convince reviewers the investigator knows what he or she is doing, i.e., no recognition of potential problems and pitfalls.
- ƒ Issue is scientifically premature.
- ƒ Over-ambitious research plan with an unrealistically large amount of work.
- ƒ Direction or sense of priority not clearly defined, i.e., experiments do not follow from one another and lack a clear starting or finishing point.
- ƒ Lack of focus in hypotheses, aims, and or research plan.
- ƒ Lack of original or new ideas.
- ƒ Investigator too inexperienced with the proposed techniques.
- ƒ Proposed project a fishing expedition lacking solid scientific basis, i.e., no basic scientific question being addressed.
- ƒ Proposal driven by technology, i.e., a method in search of a problem.
- ƒ Rationale for experiments not provided, i.e., why they are important or how they are relevant to the hypothesis.
- ƒ Experiments too dependent on success of an initial proposed experiment. Lack of alternative methods in case the primary approach does not work out.
- ƒ Proposed model system not appropriate to address the proposed questions.
- ƒ Relevant controls not included.
- ƒ Proposal lacking enough preliminary data or preliminary data do not support project's feasibility.
- ƒ Insufficient consideration of statistical needs.
- ƒ Not clear which data were obtained by the investigator and which reported by others.

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Common Reviewer Problems

Problem: They may not get the significance of your p roposed research.

Solution: Write a compelling argument.

Problem: They may not be familiar with all your methods.
Solution: Write to the non-expert in the field.

Problem: They may not be familiar with your facilities.

Solution: Show them you can do the job.

Problem: They may get worn out by having to read 10 to 15 applications in detail.
Solution: Make sure your application is clear and concise, neat, well organized, and visually appealing.