

Grant/Scholarship Writing

I apologize in advance if I discourage
you. It is not my intention!

Part 1: what are we up against?

How are grants reviewed?

- By individuals (reviewers)
- By a committee
- Most agencies follow a similar paradigm
 - The reviewers read the grant, assign a score, and present it to the committee, who then collectively make a decision on a final score
 - Usually there are two reviewers. One is assigned to speak first (primary reviewer), and one often has the option of not speaking (secondary reviewer or reader).

How do reviewers assign scores?

- Often there is a prescribed formula that reviewers are asked to follow.
 - E.g. Assign a score from 0-5 for this component of the application, assign a score from 0-5 for that component of the application, etc.
- In general, the scoring is somewhat arbitrary, i.e. some reviewers will score high and some will score low, but in the end it usually does not matter much.
 - Scores of individual reviewers are often scaled as a group, either formally or informally, such that they fall in the same range as everyone else's.
 - Large differences in scores between two reviewers are discussed and resolved before the committee votes
 - Each committee member can score in their own range.
 - Usually, a reviewer will also say something like “I really think this application should be funded” or “this was one of the best applications I reviewed” “this was ranked fifth in my pile of grants” to give meaning to their score.
 - **VISUAL AID: MY EXCEL FILE FOR SCORING**

How do reviewers assign scores?

- My method for scholarship applications:
 - Read all applications and take notes, assigning a score after reading each application.
 - Tabulate scores, and rank the candidates.
 - Re-read in order of rank from worst to best, deciding whether I agree with my original order on a second read, and paying most attention to the top 6-8 applications.
 - Change anything I disagree with.

The Horrible Truth – You Will Regress to the Mean

- Each reviewer assigns scores to individual components of each application and sums them
 - This results in a “bell curve” distribution of scores of each individual reviewer.
 - There are usually two reviewers, further emphasizing the bell curve distribution.
- Each committee member assigns a score based on whether they think the reviewer is being generous or stingy.
 - This further emphasizes the bell curve distribution of scores.

The Horrible Truth – You Will Regress to the Mean

- The system is designed to highlight and ensure funding of exceptional grants.
- However, the “funding cutoff” region is poorly defined and arbitrary.
- Reviewers need to read a lot of unfunded applications
- As an applicant, your goal is to do everything possible to put yourself out into the tail of the bell curve.
- ***There is only one way to do this – a flawless grant.***
i.e. Just because you have really great “A” doesn’t mean you don’t need great “B, C and D”
- Does “X” matter? **YES**

Part 2: How to get into the tail?

Two groups of people

- Those who need to make an effort to be funded – (most of us)
- Those who need to make an effort not to be funded – (a few of us)
 - For those few individuals: Do not leave out part of your grant, you will not be funded.

What happens if you leave out part of your CV or some other crucial part of your grant or scholarship application?

- The reviewer says “thank God, here’s an easy one.”
- Is the reviewer allowed to (e.g.) do a pubmed search for your publications, or your supervisor’s publications instead of relying on the CV?

What happens if you leave out part of your CV or some other crucial part of your grant or scholarship application?

- The reviewer says “thank God, here’s an easy one.”
- Is the reviewer allowed to (e.g.) do a pubmed search for your publications, or your supervisor’s publications instead of relying on the CV?
 - **NO, THERE IS NO PITY**

For everyone else - this is a writing
exercise

11 RULES FOR GRANT/SCHOLARSHIP WRITING

Rule 1: Know your reviewer.

- The reviewers are the only audience you care about. Your grant is a work of art designed to be seen by only two people.
- Find out what sort of individuals are on the review committee, i.e. how familiar are they likely to be with your topic? Possibly even take an educated guess as to who your application might be assigned to.
- Write the grant with these people in mind.

You are writing your grant for one person: the reviewer. What is the mindset of a reviewer?

- Best case scenario – mildly annoyed
- Worst case scenario - irate

What can you expect from a reviewer?

- You can expect them to read your grant once.
- If you are lucky (unlucky?) they may read it more than once. ***Don't count on it.***
- *Think about it – your funding relies on two individuals reading your grant once and both understanding it perfectly.*

A correlate:

- Best case scenario – a reviewer only ***needs*** to read your grant once to understand it.
 - Result –reviewer goes from annoyed to happy. Your chances of funding go way up, and they might even read it a second time.
- Worst case scenario – a reviewer ***needs*** to read your grant multiple times to understand it.
 - Result – your grant only gets read once, and you don't get funded.
 - Alternative result – reviewer reads your grant four or five times, becomes irate, and you don't get funded.
- *The best applications result in hardly any discussion at committee meetings. “Problem” applications (where two reviewers disagree) consume almost all of the committee's time.*

Do not expect your reviewer to:

- Read any of your papers
- Read any of the references you cite
- Read papers you include in the appendix
- Do a literature search
- Look at your figures
- Read your grant under ideal circumstances

Who are the reviewers?

- Usually, they are individuals with funding from the organization you are applying to.
- They are usually (at least in some way) obligated to be reviewers.
- They are not necessarily experts in the field on which you are writing (personal example – eye).
- Depending on the organization and type of application, they may not even be informed on the topic (personal example – CIHR fellowships).

Rule 2: Give yourself enough time.

- Start writing an operating grant at least one, preferably two months before your deadline. You want enough time for MULTIPLE drafts.
 - Get letters of collaboration or reference letters set up right away.

Rule 3: Do not try to polish a turd.

- Do you have a good idea? Is it the best idea you can come up with, or just pretty good?
 - If it is not your best idea and you already know it, go back to the drawing board.
 - However, sometimes writing helps clarify good or bad ideas, or stimulates the production of ideas.
 - I usually find grant writing is a great idea-generator, and in general, I enjoy grant writing.

Rule 4: Make sure it is a grant-friendly idea.

- Some great ideas are not grant-friendly.
 - They are too complicated, or require too much background information to understand.
 - They are too “long-shot”
 - You do not have prior expertise or suitable collaborators
 - They may not be suited to the funding organization
- A grant-friendly idea can be effectively summarized in the space allotted for the assigned reviewers. A grant-friendly idea does not immediately call into question your ability to perform the research.

Rule 5: Do not include too many experiments.

- You do not want your grant to seem unfeasible. In fact, you want the opposite.
- This is an error often made by new applicants
 - New applicants are also under more scrutiny in terms of feasibility, as they typically do not have great resources or long track records.
- If you have to decide between including another experiment or making your grant comprehensible, choose to make your grant comprehensible.
- Stick to your best ideas, and don't dilute them.
- Worry: "I haven't included enough". In my experience, this is not a common criticism of reviewers. At worst, they will cut your budget.

Rule 6: Follow the principles of good writing.

- Write clearly and succinctly
- Avoid flowery language
- Avoid the use of abbreviations
- Use numbered headings and subheadings
- Follow an outline
- Avoid clichés and similar pitfalls.
- Include some white space in the document. “Make it pretty.”
- Make sure your figures are easy to comprehend

- Sample heading: LITERATURE PERTINENT TO THIS PROPOSAL AND POSITION OF THIS RESEARCH IN CONTEXT OF THE STATE-OF-THE-ART
 - i.e. “Background”
- Sample heading: SHORT-/LONG-TERM OBJECTIVES OF THIS RESEARCH PROGRAM
 - i.e. “Objectives”

Rule 7: You need an editor, and not just any editor.

- Are you an excellent writer, better than 90% of other scientists? No? Then you definitely need an editor to get you into the “tail.”
- After spending many many hours on a grant, it is very difficult to put yourself in the position of someone reading it for the first time.
- Even if you are an excellent writer, an editor will help you.

What are the characteristics of a good editor?

- Editing takes time, and many of your colleagues do not have the necessary time. ***A good editor will rip your proposal apart. If you get your proposal back with a few corrections to typos, get yourself another editor.*** Your proposal should be covered with comments and corrections (although corrections are optional!). Your editor should spend several hours with the proposal, not one read-through.
- A good editor is someone you are comfortable taking serious criticism from, and who is comfortable dishing it out.
- Warning sign: “This looks great. I only had a few comments” usually means “I skimmed it and made the easiest corrections”. (Or worse!)
- You need some editing for science, but (more particularly) editing for language/communication. It is very important to ask your editor to highlight passages that are difficult to understand. It does not really matter if they are not super-familiar with the science, *as that is the same position most reviewers are in.*
- If you are new faculty, make a deal with colleagues to form a grant-writing partnership.
- Take advantage of editing programs available through UBC, but arranging your own editor may be a better choice.

Rule 8: Your editor/reviewer is always right.

- Do not fall into the trap of saying “xyz just didn’t understand the point I was trying to make. I’m right and they are wrong”.
 - *The fact that xyz didn’t understand it IS THE POINT. Regardless of whether their interpretation was correct, this section needs to be re-written for clarity.*
 - *If you are writing a “response to previous reviews” DO NOT CALL YOUR PREVIOUS REVIEWER INCOMPETENT, AN IDIOT, USELESS, ETC.*
 - *If you are writing a “response to previous reviews” DO NOT SAY “THE REVIEWER DID NOT UNDERSTAND X SO I DID NOT CHANGE IT.” If this is really the case, just don’t say anything.*
 - *Keep in mind that the only people who read “response to previous reviews” are the reviewers.*

Rule 9: Do not use the same writing style you would use in a research paper.

- Usually papers are written with a very cautious tone. You are trying to avoid overselling your idea, over-interpreting your results, etc.
- In a grant you are trying to sell your idea. There should be some sense of excitement conveyed.
- However, avoid hyperbole.
- ***“Spin” should be positive, not negative.***
- Real-life example: “It is unlikely that this experiment will actually work”.
- “This is a challenging experiment, but with great potential for pay-off”.

Rule 10: Cover all the bases.

- Don't set yourself up for criticism by failing to acknowledge obvious pitfalls. Use positive spin to reduce the potential for criticism.
- The best experiments are informative regardless of the experimental outcome.
- *Avoid sets of experiments that are dependent on each others' success, i.e. a situation in which if Aim 1 doesn't work, Aim 2 cannot be done.*
- *Include some "if X happens, then we will Y" statements, or include a section titled "potential pitfalls" or "alternative approaches"*

Rule 11: Feed the reviewer some lines.

- The reviewer needs to take notes on your application and write a review. Make it easy for them.
- Don't make the reviewer hunt for important points (or make them up for you!) such as:
 - Your hypotheses.
 - Your objectives.
 - Experimental relevance.
 - An extremely important piece of background information or preliminary data.
- Make these points obvious by saying “We hypothesize that...” or “Our preliminary results demonstrate that...” in a short summary sentence. Italicize, boldface etc. the relevant text so that they can cut and paste it into their review.
- Don't overdo this or it will become annoying.

Part 3: Special considerations for scholarship applications.

What are you up against?

- Reviewing CIHR scholarship applications is tediously dull to the point of torture.
- Why? Because there is so little to distinguish the applications, particularly the M.Sc. applications.
- Everyone has pretty good marks. Most people don't have publications.
- *How can you distinguish yourself and get into the "tail"?*

How to distinguish yourself - publications.

- Do you have anything resembling a publication? Then include it. This might be:
 - *A poster presentation, even an unofficial one*
 - *A conference abstract with you as a co-author*
 - *A manuscript in preparation or submitted.*
 - *However, don't resort to weird claims. (e.g. "I gave a talk at a retirement home").*
 - *I have often seen reference letters that mention an abstract or submitted paper that the student themselves did not include in their CV. Don't short-change yourself.*

How to distinguish yourself - publications.

– For Ph.D. applications:

- Do you already have an M.Sc. degree? If so, you **MUST** have some sort of peer-reviewed publication to be funded in a top competition such as CIHR.

– For postdoc scholarship applications:

- If you do not have any peer-reviewed publications it is very unlikely that you will be funded. You are probably better off spending your time writing a paper than applying for a scholarship.

How to distinguish yourself - academics.

- Do you have any kind of scholarship already? Then mention it. Any kind of academic recognition? Dean's list? Mention it.

- However, there are two points that usually differentiate the funded and non-funded applications:
 - Reference letters
 - “Training Expectations”

How to distinguish yourself – reference letters.

- You must have excellent reference letters to be funded. CIHR awards 40% of the score to reference letters.
- They are probably weighted even heavier than this because of the uniformity in other categories such as academic marks.
- The reference letters need to be written by someone who knows you well, not (e.g.) someone you took a course from and got an “A”.
- Similar to an editor, the individuals writing the letters need to take some time to write a letter that really describes you, and is not a generic recommendation.
- Sample tragic reference letter: “I do not know this person very well, and cannot provide an adequate assessment of most of the characteristics that are listed”.
- If someone seems reluctant to give you a reference letter, don’t push them on it.

Reference letters:

- The CIHR provides a form for referees which includes a checkbox for scoring skills such as “critical thinking” and “research ability” on a scale from 1-4.
- Almost all candidates receive “4” in all categories. Therefore, as a reviewer, I ignore this checkbox, unless someone has really crappy scores.



SPONSOR'S ASSESSMENT OF A CANDIDATE FOR A DOCTORAL RESEARCH AWARD

CANDIDATE	
Last Name: ██████████	First Name: ██████████
SPONSOR	
Last Name: ██████████	First Name: ██████████
Position: ████████████████████	
Institution: ██	Department: ██
Number of years/months that the sponsor has known the candidate: Years: 3 Months: 6	Capacity in which the sponsor has known the candidate: Former supervisor
Contact Information: winnl@queensu.ca	
Notes : <ul style="list-style-type: none"> This report will be used by CIHR when assessing the candidate's application for an award in support of doctoral study in the health sciences. The Canadian Privacy Act stipulates that, in response to a specific request by the candidate, CIHR must make available a copy of your assessment. There are two parts to the report, both parts must be completed. In Section 1, sponsors will score the candidate's performance on seven dimensions; and in Section 2, they will explain the reason for each score. The report should be sent to the candidate via Research Net. Please bear in mind that the sponsor assessment form must be received at CIHR by the deadline date. CIHR will not consider late or incomplete applications. 	

SECTION 1: RATING FORM

Indicate your perception of the candidate on each dimension by checking the box which best reflects your view of the candidate's performance. Give specific examples of the candidate's behaviour to support these ratings in Section 2 of the report.

CHARACTERISTICS	DESCRIPTION	Rarely exhibits	Sometimes exhibits	Often exhibits	Always exhibits	Unable to judge
CRITICAL THINKING	Judicious evaluation of all information, regardless of its source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
INDEPENDENCE	Pursuit of knowledge or taking of action on own initiative, seeking guidance only when appropriate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
PERSEVERANCE	Determined persistence in pursuit of goals despite obstacles or discouragement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
ORIGINALITY	Imagination or ingenuity in problem solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
ORGANIZATIONAL SKILLS	Systematic, careful planning and coordination of activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
INTEREST IN DISCOVERY	An inquiring mind and a strong desire to pursue new knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
RESEARCH ABILITY	A natural talent or acquired proficiency for scientific investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
LEADERSHIP ABILITY	Potential for, or demonstrated, significant contribution to an area of research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

As a reviewer, I watch out for
“damning with faint praise”.

“J.S. has great organizational skills – his lab bench is always neatly organized and he always shows up on time.”

Is that the best you can come up with?

Reference letter from supervisor:

- supervisors should comment on your skills and abilities with specific supporting details. Not just, “*this student has excellent problem solving skills*” but, “*in just 3 months, this student developed an in situ hybridization protocol and taught the technique to two other lab members.*”
- they should be specific about your input into the design of the research study/experiments
- they should compare you to other students in a detailed fashion: “Of the 20 graduate students I have trained, s/he is among the top 3 in terms of originality...”

How to distinguish yourself – training expectations.

- This is the only point in the scholarship application where your own voice is truly heard. ***You must take advantage of this.***
- Do not devote a page to clichés and platitudes.
 - ***Nevertheless, this is what most applications consist of, and this is what makes reviewing these applications so tortuous.***
 - ***Sometimes even otherwise excellent applications from a very original student (based on reference letters) contains a horribly generic “training expectations”.***
 - To me, this seems like the easiest section in which to distinguish yourself.
- Spend some time on this section, and have someone else edit it.
- DO provide detail regarding your own motivations and enthusiasm for research. ***Give personal details. Anything is better than no detail.***

How to distinguish yourself – training expectations.

– Common errors:

- Example: too generic. “The UBC neuroscience graduate program has excellent faculty and courses. I will take the neuroscience 501 course, which will further my fundamental knowledge of neuroscience. My supervisor is a leader in her field, and her lab has the most modern equipment suitable for performing the experiments described in the research proposal. I will receive additional input from our collaborator professor X. I will present my data at international conferences. I will receive guidance from postdocs and research assistants. I expect that I will complete my M.Sc. degree in approximately two years.”
- Example: begging the question/cliché/platitudes: “I have a great enthusiasm for research, and I believe I can make a difference in my chosen field. My research findings will further mankind’s scientific knowledge.”
- Example: begging the question: “I really love confocal microscopy.”
- Example: silly or weird: “I strove and strove and eventually became head lifeguard”
- Example: overly dramatic/insincere: “From the very first moment I stepped into a cancer research lab I felt that I had found my calling in life. If only I can achieve my goal of obtaining an M.Sc. Degree, I will help to rid mankind of this terrible disease.”

How to distinguish yourself – training expectations.

- What should I include?
 - I can't really tell you, other than **include something that makes your application different from everyone else's but doesn't make the reviewer laugh.** (And when in doubt, err on the side of the latter). The whole point is to distinguish yourself from the rest of the pack. Ideally, the reviewer will remember your application after reading 20 others.

How to distinguish yourself – research proposal.

- The research proposal is most often written by both the student and the supervisor. This is acceptable.
- Sometimes it is obviously cut-and-paste text from an operating grant. ***I do not recommend this.*** You should modify the text and say “this project is largely based on Aim 1 of my supervisor’s current CIHR operating grant.”
- In general, the same criteria apply as in an operating grant, i.e. good idea, feasible, written in a way that is understandable, although there is less weight given to the proposal in a scholarship application.

GOOD LUCK AND DON'T BE DISCOURAGED

ENJOY YOUR WRITING!