Deconstructing the Art of Grantsmanship: The Roles of the Storyteller, Grant Writer, Typesetter, Proofreader, Accountant and Reviewer

Karen E. Mosier University of Saskatchewan

Abstract: Background: The content presents a conceptually powerful and attractive framework for understanding the proposal development process to capture the complexity of the steps that contribute to successful grant writing. Based on experiences from 15 years in research administration and using real-life examples, the author juxtaposes the diverse roles required of grants professionals in creating a competitive grant application. In the context of increasing university emphasis on attracting extramural grant funding, this timely article focuses on proposal development skills using a step-by-step process including a sixpart analysis of each role within the framework, dividing the role into primary subtopics all highly relevant to each specific role. By deconstructing the art of grantsmanship, the whole suite of proposal development processes is considered with this approach with the intention that research development professionals will have solid actionable guidance in a cohesively planned delivery to capture the intricate mechanisms that translate to successful grantsmanship and acquire a set of tools to use to train grant seekers.

Keywords: Grantsmanship; Writing; Proposal Development Process; Research Administration

Introduction

Grantsmanship is the art of obtaining research funding through the process of grant writing (Kraicer, 1997). Faculty need funding to carry out their research (Ebadi & Schiffauerova, 2015). Writing a successful proposal is an art in itself (Kraicer, 1997). The art of writing a grant application has become the lynchpin to having a successful research program (Mbuagbaw et al., 2013). Researchers who write more research proposals are typically rewarded more funding (Hippel & Hippel, 2015). Research administration is a burgeoning field around the world (Kerridge & Scott, 2018). Universities are continually increasing their funding for research support personnel (Shelley, 2010). Editing draft proposals, providing proposal development support, and grant writing portions of applications are a large part of research administrators' reported responsibilities (Preuss et al., 2020). Proposal development for large, multi-investigator project grants was the number one ranked research activity for research development offices (Ross et al., 2019).

To date, little research has been done to define the skills required by administrators to improve the quality of grant applications from academic institutions, and to understand the complexities of the proposal development process (Cunningham, 2020). Based on experiences from 15 years



in research administration and using real-life examples, the author discusses a powerful and timely framework using a six-part analysis to deconstruct the art of grantsmanship and juxtapose the diverse roles required of grant professionals in creating a competitive grant application. This whole suite of proposal development processes will provide a teaching tool for research development professionals in an easy-to-understand format to comprehend the intricate mechanisms that contribute to successful grantsmanship that can be used to train grant seekers.

Storyteller

Most research development professionals would likely agree, and as the author has seen many times over the years in her role as a Research Facilitator, that the major weakness of most grant proposals is the inability of the applicant to describe the proposed research in an interesting manner to pique the interest of the reader and to communicate the societal impact of the research findings as presented in the case below.

Example #1

I read his proposal. The proposal is written well and free of grammatical errors, but it is full of overly technical jargon. It has a rigorous methodology and three clearly defined objectives. The research that the applicant wants to conduct is clearly laid out. However, it is very boring to read and I can't figure out what are the clinical implications of the research findings.

Since there is an inherent need in proposal writing to communicate one's research plan in a narrative format, the first component to discuss in deconstructing the art of grantsmanship is the role of the "Storyteller". A good Storyteller can entertain, educate, enlighten, and teach people about issues that they may know nothing about (Clarke, 2009). The same is true for grantsmanship (Torpey, 2014). Storytelling puts the passion and creativity back into the grant writing process rather than just focusing on the technique and form of grant writing (Clarke, 2009). Storytelling is powerful. A grant proposal should be written so that it tells a powerful story (Clarke, 2009). Although a research development professional will more likely be involved in reviewing the proposal or possibly making minor edits to the text and not actually directly involved in writing the proposal, understanding the importance of telling a great story in grantsmanship is key to doing a thorough review (see Table 1).

Table 1. Roles of the Storyteller in Grantsmanship.

- 1. Tell the who, what, when, where, why, and how of the proposal
- 2. Demonstrate that the proposal is based upon the existing literature
- 3. Clearly outline the objectives and the importance of the research
- 4. Identify the primary research question and what can be accomplished
- 5. Establish the scientific merit of the proposal
- 6. Give sufficient details regarding the experimental design and methods



The following sections outline how Storytelling can be applied to Grantsmanship.

Tell the who, what, when, where, why, and how of the proposal

A good narrative uses an interesting angle to pull the readers into the story, present fundamental information, introduce the characters, establish a sense of time and place, build tension and conflict into the story (Clarke, 2009), and builds interest as to how the research is addressing a critical health problem (Burrow-Sánchez et al., 2016). A good story will tell the who, what, when, where, why and how of the event (Rogers, 2019). The proposal should tell the reviewers what is to be done, why it will be done, and who will be doing what, with the underlying message that the researcher is capable to do what is proposed (Streiner, 1996). Persuasive language must be used so the ideas presented connect with the reviewers on an emotional level. A good grant application will pitch the ideas outlined in the proposal and present a strong argument as to why the research should be funded (Walters, 2009). It should address the significance of the scientific question and be written with the intent to persuade like a consumer buying an advertised product (Liu et al., 2016). A well-crafted proposal will speak to the societal impact of the findings (Lee, 2016), communicate why the research is worthy of funding (Walters, 2009), and connect the dots between the study objectives, research questions, and the project deliverables (Wisdom et al., 2015). Storytelling approaches when used in grant writing are highly effective in terms of persuasion (Monte & Libby, 2018).

Demonstrate that the proposal is based upon the existing literature

The proposal should be written so that it is based upon and adds to the existing literature (Knafl & Deatrick, 2005). A common misjudgment is to make the background section too wordy (Sandler et al., 2005). The background should not be comprehensive but rather an analytical, concise review to identify current gaps in the literature and outline how this research will add to new knowledge in this area (Sandler et al., 2005).

Outline the objectives and the importance of the research

The primary goal is to outline what the objectives are and why the researcher is interested in undertaking this research project (Streiner, 1996). The writer must explain how the planned objectives (or aims) will address gaps in the scientific literature and outline the methodology best suited to test them (Knafl & Deatrick, 2005). The aims should demonstrate the problem, lead to a specific solution, and affirm the impact of the proposal on society and future research (Monte & Libby, 2018). The specific aims are very important as they will affect how the reviewers will perceive the rest of the proposal (Burrow-Sánchez et al., 2016).

The objectives (or aims) are key to shaping the development of the research grant application and should be to the point, declarative sentences that stand out for the reader, preferably in a bullet-point format (Pequegnat, 2010). Applications with too many objectives or questions often fail review as the proposed project may be perceived as being too ambitious (Sandler et al., 2005). Proposals with too many ideas and no focus are more likely not to be funded (Lee, 2016). Research designs where one aim cannot be completed if another aim fails should be avoided as



this is usually a red flag to the reviewers and most likely this research will not be funded (Monte & Libby, 2018).

Identify the primary research question and what can be accomplished

Care must be taken when writing the proposal to emphasize the primary research question and what can be accomplished from the study results (Sandler et al., 2005). The research question should be relevant and testable (Sandler, 2002) and identify the population group(s), type of exposure, control or comparison group, and the expected research outcomes (Sandler et al., 2005). The hypotheses should be compatible with the significant section and they need to connect back to the objectives of the study (Friedland, 2009).

Establish the scientific merit of the proposal

The single most important criteria in determining whether a research study should be funded or not is the scientific merit of the proposal (Schepers et al., 2000). Use each section of the proposal to its full potential to persuade the reviewers regarding the importance and workability of the proposed project (Wisdom et al., 2015). A successful proposal is compelling and should be written in such a way that it convinces the reader that there is a problem (Schepers et al., 2000) and that funding is required to carry out the proposed research (Sauer & Gabbi, 2018). The writer should always define the scope of the problem for the reader in terms of the burden of the disease as well as the associated costs to society (Knafl & Deatrick, 2005). Any limitations to successfully completing the proposed research project should be thoroughly and realistically discussed, otherwise the review board may use this as grounds for rejection of the proposal (Cuschieri et al., 2018; Inouye & Fiellin, 2005).

Give sufficient details regarding the experimental design and methods

Sufficient details regarding the experimental design and methods should be discussed in the proposal including study sample, data collection/procedures, outcomes, intervention (if applicable), data analysis and summary of strengths and weaknesses of the grant application (Inouye & Fiellin, 2005). It is especially critical to persuade the reviewers that the methodology in question is validated and previous research has been done using this method (Cushieri et al., 2018). Early consultation with a biostatistician regarding study design, data analysis plans, and sample size calculations will enhance the success of the research proposal (Inouye & Fiellin, 2005). Ethics requirements should be addressed within the proposal and appropriate documents attached with the grant application (Cushieri et al., 2018).



Grant Writer

A very common problem that the author has observed over the years when reviewing proposals is poor adherence to funding agencies' guidelines and the lack of attention to details as presented in the case below.

Example #2

I read her grant application. She didn't pay attention to the funder guidelines. When I added the required headings it became readily apparent that she was missing a couple of required sections that needed to be addressed in the grant proposal. Her font size was incorrect so I fixed this so her application would not be disqualified. Her title was vague so I added a couple of suggestions to revise it as the funding agency staff often use the title to find the right review committee for the grant application. The abstract was missing key components so I rewrote it as this is often the only part of the grant application that the majority of committee members read. I also made suggestions to limit the use of technical jargon and to define each concept for the non-expert reviewer. In addition, I scrutinized the first page and added any important information that was missing so that the reviewers didn't have to dig for it. Lastly, I also suggested that she highlight her team, her previous research, and her institutional support and add a timeline so that the reviewers could see at a glance that she could do what she promised to do in a timely manner.

Since there is an apparent lack of compliance with granting agency guidelines on part of the faculty member whether intentional or unintentional, and a propensity on the part of the researcher to rush through the grant writing process likely due to time constraints, the second component to consider when deconstructing the art of grantsmanship is the role of the "Grant Writer". Grant writers need to have strong research and writing skills and good interpersonal skills (Torpey, 2014). A good grant writer should be detail oriented, demonstrate multitasking abilities, and possess a high degree of organizational skills to juggle multiple tasks and adhere to the funding agency's guidelines and deadlines (Torpey, 2014). Being able to express their ideas clearly and succinctly and use creativity and persuasiveness to help a proposal shine above the rest are also important qualities of a great grant writer (Torpey, 2014). In order to do a thorough review of a grant proposal a research development professional must see himself or herself as a grant writer. In order to do this, understanding what a grant writer does is essential in providing high quality proposal development services (see Table 2).



Table 2. Roles of the Grant Writer in Grantsmanship.

- 1. Ascertain the funder's guidelines for preparing a grant application
- 2. Determine if the proposal clearly states why the research should be funded
- 3. Confirm if the title of the grant application conveys the essence of the proposal
- 4. Check if the abstract summarizes all the details of the proposal
- 5. Investigate if the use of jargon and acronyms in the proposal is minimized
- 6. Ensure that all the requirements of the funding agency are addressed
- 7. Determine if the grant proposal dedicates the right amount of detail to each section
- 8. Create a grant proposal template to create a structure for the writer to follow
- 9. Determine if logical headings are incorporated to guide the reader
- 10. Check that all important information is in the first few paragraphs of the proposal
- 11. Confirm that any previous research done by the team is highlighted in the proposal
- 12. Affirm that the strengths of research team is showcased in the proposal
- 13. Determine if the proposal speaks to the researcher's institutional support
- 14. Verify that the proposal includes a timetable to describe what will be done
- 15. Check that all the supporting information is included in the appendices
- 16. Ensure that the proposal is written with the intent to persuade

The following sections speak to the role of the grant writer in Grantsmanship.

Ascertain the funder's guidelines for preparing the grant application

A good grant review starts by doing some background work to ascertain the funder's guidelines for preparing a grant application, paying close attention to the details (Devine, 2009). A clear understanding of the objectives of the funding call and the criteria that need to be met to be eligible for funding are essential so that the project is matched to the most appropriate funding source (Schembri-Wismayer et al., 2018). Successful proposals link the research to the funding agency's priorities and mission (Gemayel & Martin, 2017; Wisdom et al., 2015). Proposals can be returned without review or denied funding if the guidelines are not adhered to (Devine, 2009).

Determine if the proposal clearly states why the research should be funded

In order for a proposal to stand out above all the rest, it is essential to communicate to the reviewer not why the researcher requires funding, but rather, why this research study deserves to be funded (Schembri-Wismayer et al., 2018).

Confirm if the title of the grant application conveys the essence of the proposal

The title of the grant application is important (Brownson et al., 2015). The title is the very first thing that a reviewer will read and should convey the essence of the proposal and be as succinct as possible (Gotley, 2000). It should include the primary message from the study results (Liu et al.,



2016). The title should be short and succinct and mirror the actual subject matter of the research study (Walters, 2009). It should achieve impact without being too ambitious (Gotley, 2000). The title can be key as the reviewers may be more inclined to read applications with the most interesting titles or review committee members may use part of the title to refer to the project during the evaluation process (Friedland, 2009). A title should be concise and preferably no more than 200 characters with spaces (Monte & Libby, 2018).

Check if the abstract summarizes all the details of the proposal

The abstract is a collection of statements written to summarize the details of the research project using clear and precise language (Inouye & Fiellin, 2005). It is generally the first thing that the reviewers will read (Burrow-Sánchez et al., 2016) and needs to be written to engage and pique their interest (Inouye & Fiellin, 2005). All the information included in the project summary or abstract should match with everything discussed in the proposal including the objectives, collaborations, and budget (Schepers et al., 2000).

Investigate if the use of jargon and acronyms in the proposal is minimized

A well-written proposal will have finite use of jargon and acronyms to make it easier for the reviewer to read (Wisdom et al., 2015). The reviewer should not have to investigate each cited reference to understand the material being presented (Inouye & Fiellin, 2005). Jargon can impede the reader from perceiving the significance of the research being presented (Inouye & Fiellin, 2005).

Ensure that all the requirements of the funding agency are addressed

A research grant application usually has a common format such as a title, hypothesis, aims, significance, background, research plan, budget, and timetable (Gotley, 2000). Proposals will be evaluated on criteria such as the research question, expertise of the applicant and team, research approach, innovation, research environment, dissemination, gender balance, potential impact, relevance, ethics, and the budget (Lee, 2016; Roberts & Kaack, 2000; Sauer & Gabbi, 2018; Walters, 2009). Using an outline is a common practice to ensure all the requirements of the funding agency are met (Walters, 2009). The proposal should be reviewed to verify that each of the components involved in a typical proposal such as context/setting, rationale, literature review, methodology, collaborators, training of others, outcomes, research environment, personal background/experience, previous grant applications and dissemination are included in the proposal (Walters, 2009).

Determine if the grant proposal dedicates the right amount of detail to each section

A common mistake in grant writing is providing excessive background detail (Friedland, 2009). Check if the funding agency gives a breakdown of how many pages should be dedicated to each section, e.g., two pages to describe the research background and five pages to describe the research project (Walters, 2009). A good strategy to avoid lack of white space or going over the required page limit is to go through the proposal and cut out any repetitive sections (Walters, 2009) or, as a rule of thumb, allow no more than three paragraphs per section (Devine, 2009).



Create a grant proposal template to create a structure for the writer to follow

Grant proposal templates with common requirements for specific funding agencies can be offered to provide research development support to faculty (Wisdom et al., 2015). Any type of basic grant proposal template ensures that all essential sections are include in the application and creates a structure for the writer to follow (Snowball Fundraising, 2018). Granting agency specific templates can be developed specific to each funding agency. For example, the evaluation criteria can be copied off the funding agency website and pasted within a Word document and then separated into distinct sections. Next, the word limits for each section can be manually added for easy reference to ensure that the text included for each section does not go over the specified limit. The weightings for each section can be added to give a better idea of which sections of the grant application need more time and work because of the larger weighting. Lastly, the proposal under review can be pasted into the different sections of the grant proposal template. The beauty of using this writing aid is that it makes it readily apparent to the research administrator if one or more sections have not been adequately addressed in the final draft and it also makes redundant sentences or paragraphs stand out so they can be removed.

Determine if logical headings are incorporated to guide the reader

Clarity and flow are key to writing a successful grant application and these two essential components are dependent on the use of logical headings (Sandler et al., 2005). A good strategy is to use subheadings to summarize the information being presented in each section and break up the text for the reviewer, making the proposal easier to read (Burrow-Sánchez et al., 2016).

Check that all important information is in the first few paragraphs of the proposal

The wording used in the first few paragraphs is of key importance as it sends a signal to the reviewer that the topic is meaningful and that the study will result in valuable new knowledge (Knafl & Deatrick, 2005). The introductory paragraph should be written skillfully to create ambience and provide the background for the research and pull the reader away from everyday distractions into the realm of your research (Walters, 2009). The purpose of writing the first few paragraphs is to clue the reader to the importance of the potential study results and, more importantly, what this will mean in terms of clinical application and future research in this area (Knafl & Deatrick, 2005). The overarching plan for the proposed research should be introduced right from the get-go and written to give the educated nonexpert a basic understanding of the research in question, or contain enough detail should a reviewer be an expert on the topic, so that either type of reviewer can act as an advocate for your proposal during the review (Monte & Libby, 2018). Point out key ideas right off the bat and chop the text into small chunks to make the proposal easier to read like a newspaper (Brownson et al., 2005). Just like a magazine or newspaper has its top stories on the front page, check that the important information is not hidden deep within the grant proposal but is placed up front to be noticed right away (Brownson et al., 2005).



Confirm that any previous research done by the team is highlighted in the proposal

A good writer will capitalize on previous work done by the researcher or team members that is relevant to the proposed research and highlight this within the proposal (Inouye & Fiellin, 2005). Review the proposal to check that previous research in this area has been discussed, the study results are explained, and in particular, an explanation is given to describe how this research was instrumental in designing the current research study (Pequegnat, 2010). Preliminary data begets success. Verbose dialogue, brainy conjecture, or sweet assurances will never replace preliminary data when it comes time to judge the scientific merit of the research study (Schepers et al, 2000).

Affirm that the strengths of research team is showcased in the proposal

Funders value teamwork (Wisdom et al., 2015). Check that the applicant has thoroughly explained to the reviewers why the research team is the right group of people to get the research done by highlighting team expertise, training, and experience (Burrow-Sánchez et al., 2016), how the work will be shared among team members and how the funding will be appropriated (Cuschieri et al., 2018).

Determine if the proposal speaks to the researcher's institutional support

A well-written proposal will describe in depth the researcher's institutional environment (Devine et al., 2009) and detail the support that is available to back the proposed research (Brownson et al., 2015). In other words, a well-crafted grant application will outline how the researcher's environment will contribute to their success (Monte & Libby, 2018). The score of a grant application will be weighted heavily on the significance of the research, research plan, innovation of the research, researcher expertise, and institutional supports for the applicant (Inouye & Fiellin, 2005). A reviewer will rate it as a strong proposal if it is woven throughout the grant application how the research environment will contribute to the probability of success of the researcher and describes any special features of the institution's scientific community and existing research collaborations (Brownson et al., 2015). A strong proposal will clearly indicate all the resources that are in place that the researcher will require to carry out the study (Lusk, 2004) and speak to the availability of facilities, space, equipment, and laboratory resources (Wisdom et al., 2015) in addition to personnel, IT support, and institutional resources (Burrow-Sanchez et al., 2016). Institutional support such as protected time to do research should also be included in this section of the proposal (Sauer & Gabbi, 2018).

Verify that the proposal includes a timetable to describe what will be done

It is imperative to check that the grant application includes a timetable as it will demonstrate to the readers that it is possible to complete what is outlined in the proposal in the requested time (Gotley, 2000). Specific dates, times and milestones will resonate with the reviewers that the investigator has thought through the planning process for completing the study (Knafl & Deatrick, 2005) in order to achieve the primary goal of the research (Burrow-Sánchez et al., 2016). The purpose of a prudent timeline is to allow reviewers to determine if enough time is designated for all parts of the study (Knafl & Deatrick, 2005).



Check that all the supporting information is included in the appendices

Having enough space to write in enough detail is always an issue in grant writing. Things such as interview questions, significant statements, coding categories, and analytic techniques can be included in the appendices if allowable by the funding agency (Knafl & Deatrick, 2005). Direct the reviewer to check out more details in the appendix. This section should be used to bolster the researcher's expertise and describe how the researcher will accomplish the proposed research (Knafl & Deatrick, 2005).

Ensure that the proposal is written with the intent to persuade

Ensure that the applicant has written the proposal with persuasion, like selling a product to a customer and receiving payment, or in research terms, to get the buy in from the reviewers, so that the applicant receives the funding to do the proposed research project and presents the product—the study findings (Lusk, 2004). To get a good score from the reviewers the proposal needs to be written in an understandable and convincing way to persuade them that the proposal under review is exemplary among all the other applications (Lusk, 2004). For a quick reference when writing a grant application use the OUTSTANDING approach (see Lusk, 2004).

Typesetter

The number one problem that the author has seen over the years when reviewing faculty grant applications is the lack of readability of the proposal as presented in the case below.

Example #3

I read his proposal. It was extremely well-written and void of grammatical errors. The research was laid out in a logical manner with a detailed methodology and clearly outlined objectives. However, my eyes kept slipping down the page. His complex methodology was confusing. I made suggestions for him to add more white space and add more headings to make it easier for the reviewers to read. I also added a couple of suggested tables so several blocks of text could be removed. Lastly, I included a sample figure that he could use that summarized his complicated methodology so that the reviewers could see a snapshot of his research program at a glance.

Since there is an apparent need to make grant proposals more readable for the reviewers and organize the material so the information presented is easy to understand and grasp, the third component to examine when deconstructing the art of grantsmanship is the role of the "Typesetter". Typesetting is the technique of deciding where to place text on a page with adequate white space. Typesetting is all about what is perceived with the eye and what message is given to the beholder. The one who reads it discerns it without thinking about it at the subconscious level (Reedysblog, 2018). The goal of a typesetter is to create the ultimate reading experience. Typesetting is important as it makes your message easier to read thereby contributing to the impact of your writing (Reedysblog, 2018). In order to do a thorough review of a grant proposal a research development professional must think like a typesetter. Understanding what a typesetter does is essential to providing high quality proposal development support (see Table 3).



Table 3. Roles of the Typesetter in Grantsmanship.

- 1. Check that the text doesn't appear crowded
- 2. Confirm that there is space between paragraphs and sections
- 3. Check that there is ample white space in the proposal
- 4. Employ use of bullets to break up the text
- 5. Incorporate bolding to draw attention to relevant parts of the proposal
- 6. Utilize figures or tables to increase the readability of the proposal

The following sections demonstrate how Typesetting can be applied to Grantsmanship.

Check that the text doesn't appear crowded

Check that the applicant doesn't use trickery or try to jam as many words as possible into the proposal by reducing the size, squeezing the margins, or using single line spacing instead of double spacing for the text (Gemayel & Martin, 2017). Otherwise, the proposal will look like a blur of words with endless rows of text with no figures or tables to break up the text (Gemayel & Martin, 2017).

Confirm that there is space between paragraphs and sections

Review the proposal for white space to make the text look less crowded (Pequegnat, 2010). A grant application that is written with readability in mind (Brownson et al., 2015) will have space between paragraphs and between sections (Inouye & Fiellin, 2005).

Check that there is ample white space in the proposal

A grant application that has lots of white space has a better chance of being funded than a proposal with crowded text and lack of spacing (Sandler et al., 2005). A well-crafted proposal will include the right amount of white space to break up the text for the reader to make it easier to read (Sandler et al., 2005). To improve the readability of the proposal, a general rule to keep in mind is to include as much white space as possible, so the reviewers' eyes don't slip down the page when they are trying to review the grant application (Monte & Libby, 2018).

Employ use of bullets to break up the text

Don't hesitate to recommend use of bullets in the proposal as this type of formatting is a great way to break up the text for the reader and to make it easier to go through which will facilitate a positive response from the reviewer (Devine, 2009).

Incorporate bolding to draw attention to relevant parts of the proposal

Check the proposal for use of bolding to make important points and phrases pop out for the review panel (Gemayel & Martin, 2017). Bolding is recommended to draw the eye of the reviewer to the most relevant parts of the proposal so that they are not overlooked (Devine, 2009).



Utilize figures or tables to increase the readability of the proposal

To keep the reviewer happy and increase the readability of the proposal, check that the applicant has included figures to explain complicated concepts and complex methodologies (Gemayel & Martin, 2017; Lusk, 2004). Tables, figures, and diagrams are a great way to meaningfully communicate important information to the reader and can save space in the proposal by eliminating narrative descriptions (Lusk, 2004). A diagram can summarize in a very small space what normally takes several lines of texts to elucidate (Gemayel & Martin, 2017). Using figures to explain the study design and research objectives are recommended to act as a visual guide to navigate the reviewer through the proposal (Monte & Libby, 2018). Check the tables and diagrams that they are designed with careful thought as a grant application that is easy to understand will enthuse the reviewers (Sandler et al., 2005). Exceedingly elaborate tables and crowded figures should not be used as the reviewers do not have time to waste to decipher the results (Schepers et al., 2000).

Proofreader

One of the most common errors that the author has observed over the years in her role as a Research Facilitator when reviewing faculty grant proposals, is incorrect grammar, spelling mistakes, and unclear wording or messaging as presented in the case below.

Example #4

I read her proposal. She was clearly an expert in her field. Her institutional support was clearly outlined. The strengths of her team were highlighted. Her hypothesis was clearly identified and her objectives were meticulously laid out. However, the grant application was full of spelling mistakes and grammatical errors. Most importantly, the importance of her research wasn't clear to me. I found a couple of sentences stating the significance of her research study buried deep several pages into her grant application. After copying and pasting the material to the first page, I paraphrased these sentences to avoid repetitious text and at the same time to make the information readily available for the reviewers.

Since lack of proofreading is a reoccurring problem in faculty grant proposals, the fourth component to deliberate when deconstructing the art of grantsmanship is the role of the "Proofreader". The qualities of a good Proofreader include attention to detail, strong communication skills, and superior knowledge of grammar and spelling (Job Description and Resume Examples, n.d.). The Proofreader is responsible to detect and correct errors in the document, verify spelling and grammar, check for inaccuracies in the text, add missing or fix misplaced punctuation, and check the images, tables and/or charts for accuracy (Job Description and Resume Examples, n.d.). Understanding everything that is involved in doing a good proofread is vital information for a research development professional to know in order to conduct a thorough review of a grant proposal (see Table 4).



Table 4. Roles of the Proofreader in Grantsmanship.

- 1. Check for spelling mistakes or poor grammar
- 2. Confirm that the application is complete and filled out correctly
- 3. Check that the proposal is formatted correctly
- 4. Verify that the message of the proposal is clear
- 5. Confirm that any repetitious text is eliminated

The following sections elucidate the role of the Proofreader in Grantsmanship.

Check for spelling mistakes or poor grammar

A badly written, unorganized, and incomplete application with spelling mistakes and grammatical errors will make the applicant look bad and cause the reviewer to doubt the applicant's ability to produce quality, cutting edge research (Gotley et al., 2000). Check that the proposal is void of grammar and syntax errors, spelling mistakes, or errors in word usage or punctuation (Wisdom et al., 2015).

Confirm that the application is complete and filled out correctly

Attention to detail in preparing the research grant application is crucial; it affects how well the research proposal may be interpreted as an indicator of the likely excellence and preciseness of the research (Liu et al., 2016). A good grant professional will scrutinize the proposal to make sure that all sections of the application form are complete and filled out correctly (Gotley et al., 2000) and it is easy to read and understand (Inouye & Fiellin, 2005).

Check that the proposal is formatted correctly

Check the funding agency requirements to make sure that the proposal is formatted correctly, e.g., font type, font size, citation format, image restrictions, length restrictions, so the reviewers are not irritated by having to evaluate a grant application that reads more like a rough draft due to lack of proofreading (Gemayel & Martin, 2017). Proposals with tiny print and crowded text without proper line spacing will be noticed as the reviewers are quick to spot if a research proposal does not follow the formatting requirements (Schepers et al., 2000). Verify that the proposal does not go over the page limits or it may not be reviewed and not complying with the required formatting will make a bad impression with the reviewers (Schepers et al., 2000).

Verify that the message of the proposal is clear

When reviewing the final revision of the proposal with a critical eye, it is imperative for a research development specialist to make sure that the message is clear and logical (Walters, 2009). A badly written grant application without proper organization and structure can obstruct the ideas being presented and impede the message from getting across to the reviewers (Gotley et al., 2000). The reviewers need to comprehend what the researcher is trying to say in the proposal (Gotley et al., 2000). If a reviewer must struggle to figure out what the research project is about, it is likely that a high score will not be assigned to the proposal (Liu et al., 2016).

Confirm that any repetitious text is eliminated

As a grant professional, it is important during the final review of the researcher's proposal that repetitive phrases or sections are removed, and any unnecessary words, phrases or sentences are eliminated (Walters, 2009).

Accountant

One of the most commonly overlooked areas of a grant application that the author has noted over the years in her role as a Research Facilitator is the budget and the accompanying budget justification. This can cause great confusion among the reviewers and likely result in a lower overall score if not rectified prior to submitting the application package to the funder as presented in the case below.

Example #5

Her proposal was extremely well written and free of grammatical errors and spelling mistakes. There was good use of white space and headings and a figure was used to show at a glance the proposed research. However, when I looked at the budget there were several issues that needed to be addressed. The totals in the budget section did not match the totals in the proposal so I asked her to fix this. In her budget justification, she asked \$25,000 for supplies which sounded high so I asked her to explain in detail what supplies were needed to conduct her research so that the reviewers didn't think she was padding her budget. I also noticed that she had forgotten to add benefits for her research assistant so I asked her to fix this. She identified three graduate students in her budget justification but she didn't indicate how long each one would be hired or what they would do. I asked her to add the students' names if possible to show the reviewer that she already had these students in place. Also, she asked for money for two graduate students and didn't specify where the money for the third student would come from. I told her that if she had graduate funding for this student that she should add this to the budget justification as this would strengthen her application. Lastly, I asked her to relate her budget items back to her research objectives and clearly identify which individuals would work on each objective.

Since numerical errors are routinely commonplace in the budget and often pertinent details are lacking in the budget justification, the fifth component to contemplate when deconstructing the art of grantsmanship is the role of the "Accountant". An Accountant's responsibilities include such things as bookkeeping, accounts preparation, budgeting, preparing financial statements, assisting with auditing, and financial investigation (Reed, 2020). Although a research development professional will more likely be involved in reviewing the budget or possibly suggesting changes to the budget and/or budget justification and not actually directly involved in budget planning, understanding the role of an Accountant is crucial to conducting a thorough review of a grant application (see Table 5).



Table 5. Roles of the Accountant in Grantsmanship.

- 1. Verify the amount of funding asked for in the budget is acceptable
- 2. Check that the budget is well thought out and accurate
- 3. Confirm that the budget justification includes all the pertinent details
- 4. Scrutinize the budget so that there are no mathematical errors
- 5. Check that the numbers given in the proposal match with the budget

The following sections illustrate the role of the Accountant in Grantsmanship.

Verify the amount of funding asked for in the budget is acceptable

Most funding agencies give a specific amount of funding for a particular funding opportunity. In cases where there is no limit stated, the research support person should check the range of funding given out in previous competitions to ascertain the budget range supported by that agency (Higdon & Topp, 2004).

Check that the budget is well thought out and accurate

In addition to having a cutting-edge research question with a solid plan to test it, a research development professional must also check that the proposal has a reasonable, well thought out plan for the budget (Patil, 2017). The budget is the main event of a research grant application so consequently, budget items should reflect everything described in the research proposal (Walters, 2009). During the review of the final grant application, it is important to verify that the budget is an accurate appraisal of the funding needed and only includes required items that are necessary to complete the proposed research (Wisdom et al., 2015). A grant professional should scrutinize the budget rigorously to check for and flag any exorbitant costs such as excessive travel, extravagant equipment purchases, high salary costs, and unreasonable number of graduate students (Schepers et al., 2000). The research support person reviewing the budget should also check for sufficient detail to adequately justify each expense for each component of the project which is necessary to guarantee accountability on behalf of the researcher (Devine, 2009). The description of inkind services in the budget justification should be sensible and include the types of services being offered and the duration for each (Schepers et al., 2000).

An exact, detailed budget is necessary to get funding to carry out the proposed research (Higdon & Topp, 2004). The purpose of an accurate budget is to sway the reviewers that the researcher understands all the complex details of planning the study and all the associated costs to complete the research have been calculated (Sandler et al., 2005). As a grant professional, do your homework and determine what expenses the funding agency will allow (Walters, 2009) as the reviewers will frown upon inappropriate budget requests (Lee, 2016). Check carefully that the proposal does not discuss more research projects than what is accounted for in the budget (Wisdom et al., 2015). Remind your faculty that it is always a good idea to include publication costs in the budget (Schepers et al., 2000).



Confirm that the budget justification includes all the pertinent details

A research development professional should always check that the budget justification clearly explains whether individuals are hired to work full time or part time on a project, how long they will be hired and on what project(s) (Devine, 2009). Benefits and overhead (if applicable) should be calculated and outlined in the budget (Schepers et al., 2000). A good proposal development professional will give extra attention when reviewing the budget justification to make sure that the researcher has described the research personnel and the name, title, previous training and experience, percentage time they will work on the study, and a succinct description of their role in the proposed research is included (Pequegnat, 2010).

Scrutinize the budget so that there are no mathematical errors

A review of the researcher's budget prior to the submission of the grant application will include thoroughly scrutinizing the numbers to verify that all the totals add up correctly (Wescott & Laskofski, 2011). The numbers outlined in the researcher's proposal should match the numbers in the budget section (Streiner, 1996) as any inaccuracies that are missed during the grant application review will likely cause the reviewers to question the researcher's ability to handle all the details associated with conducting a research study (Wisdom et al., 2015).

Check that the numbers given in the proposal match with the budget

A grants professional should check the budget for compatibility with the methods. This is a common mistake for faculty to make because as the project unfolds, research questions are altered, and sample size changes, relevant expenses may be neglected in latter drafts of the grant application (Higdon & Topp, 2004).

Reviewer

The author in her role as a Research Facilitator has attended many grant writing workshops and seminars over the years. The one recurring theme that emerged from attending these events was the need to use care and attention in crafting a proposal as a sloppily prepared grant application that lacks readability will irritate the reviewers as presented in the case below.

Example #6

His proposal was not clear. It was full of overly technical writing and had lots of confusing abbreviations. It read like a methodology paper. It was evident that it hadn't been proofread. There was a lack of white space and headings. I reread it three times but I couldn't figure out why the research was being conducted and what was the impact of the research findings. There was no identification of the problem or the burden of the disease. It had four objectives which appeared overly ambitious for the length of the project. The abstract was missing important components. The feasibility of the study wasn't demonstrated. The strengths of the research team to conduct the research and the institutional support were not discussed. I thought to myself if I can't understand the grant proposal and I took several hours to review it, how would the reviewers



who only had a limited amount of time to spend on each application grasp the significance of the proposed research and what kind of mood would they be in after reading this grant proposal in its current form?

Since there are common grant writing mistakes that can weaken a proposal and discredit a researcher with the review panel, the sixth component to delve into when deconstructing the art of grantsmanship is the role of the "Reviewer". It is important to be able to see the grant proposal from the perspective of the reviewer (Brownson et al., 2015). A reviewer is responsible to be knowledgeable about the funding agency policies and guidelines, assess, adjudicate and deliberate each grant application at the review committee meeting(s), and suggest a budget and term to support the proposed research (Canadian Institutes of Health Research, 2020). In order to conduct a thorough review of the proposal, a research development professional must think like a reviewer and be on the lookout for any common grant writing flaws that need to be corrected prior to submitting it to the funding agency (see Table 6).

Table 6. Common Grant Writing Mistakes That Can Irritate a Reviewer.

- 1. The grant proposal does not conform with the funding agency's requirements
- 2. The proposal is written in overly technical language
- 3. The literature review does not cite relevant people who work in this field
- 4. The grant application is written without paying attention to detail
- 5. The proposal does not tell a compelling story
- 6. The proposal does not communicate the need for the research
- 7. The abstract is incomplete
- 8. The proposal does not have clear and realistic aims
- 9. The grant proposal is not clear and concise
- 10. The grant application does not demonstrate the feasibility of the study
- 11. The proposal does not highlight the credibility of the research team
- 12. The grant application does not confirm the researcher's institutional support
- 13. The study is not well designed
- 14. The proposal does not stand alone from the appendices
- 15. The proposal does not communicate the significance of the research findings
- 16. The proposal does not include any diagrams to explain complex ideas
- 17. The grant application does not include a timeline
- 18. The budget is not well thought out
- 19. The researcher's CV is lacking in experience and expertise



The following sections highlight common mistakes that can irritate the reviewer and how to fix them prior to submission.

The grant proposal does not conform with the funding agency's requirements

Before you begin to review the grant application, check the funding agency's website for its mission and vision and for listings of projects that they have awarded funding and then review the grant proposal accordingly (Sauer & Gabbi, 2018). Make sure that the applicant has conformed to these requirements or this oversight may irritate the reviewers and ruin the researcher's chances for success from the onset (Gemayel & Martin, 2017).

The proposal is written in overly technical language

Consider who the reviewers are, and why they were chosen (Streiner, 1996). Content area experts may be selected while others may be chosen because of a specific technique that the researcher is using or because of their knowledge in research methodology or statistics. These latter people may know little about the faculty member's specific area of research, so it is important that the applicant writes in non-expert language (Streiner, 1996). The availability of experienced reviewers is limited (Brownson et al., 2015) so screen the proposal for use of overly technical terms and rather substitute down to earth, understandable language as the panel of reviewers are likely to have different areas of expertise (Sauer & Gabbi, 2018).

Remind the applicant that scientific technical terms and research field-related abbreviations should be avoided so the reviewers don't have to waste time to search the references to understand what the writer is trying to say in the proposal (Inouye & Fiellin, 2005). Caution the applicant to keep in mind that not all the reviewers will be experts in this field especially in smaller funding agencies, so double check the proposal is written with words that they can comprehend so they can understand the point that the researcher is trying to make (Streiner, 1996).

The literature review does not cite relevant people who work in this field

Ask the applicant to do research and find out the list of reviewers that could be assigned to critique the proposal. Ask the researcher to look to see if it includes any people who work in this field and ask them to consider referring to their work in their own literature review to demonstrate that the applicant is aware of all the work being done in the content area (Pequegnat, 2010).

The grant application is written without paying attention to detail

Scrutinize all the instructions of the grant agency carefully, paying strict attention to all the details as grant applications that do not conform to the guidelines can be returned without review (Devine, 2009). A lack of attention to detail in the proposal may result in a lower score as the reviewers may doubt the applicant's competency to carry out the research (Lusk, 2004). Check carefully that the applicant doesn't try to trick the reviewers and cheat on formatting requirements by using small fonts, trimming margins, and adopting single line spacing throughout (Gemayel & Martin, 2017). The reviewers value good quality figures, proper formatting, and thorough proofreading to remove typographical and grammatical errors so make sure your review of the proposal is meticulous (Wescott & Laskofski, 2011).

A well done, correctly formatted, and complete grant application creates a sense of responsibility and accountability to the project in the eye of the reviewer about the applicant so your role in reviewing the grant is critically important to the success of the grant application (Wescott & Laskofski, 2011).

The proposal does not tell a compelling story

The proposal must attract the interest of non-expert reviewers who won't have much time to commit to read the proposal in depth (Wisdom et al., 2015). Reviewers only have so many hours in a day to commit to reviewing grant applications. Most reviewers decide their impression about a research grant application in a short space of time so make sure as you read the proposal that it scores high in terms of readability, clarity, conciseness, and formatting, and that it tells an interesting and convincing story (Brownson et al., 2015). A good writer will use compelling language to persuade the reviewers that the proposed research is important, breaks new ground, and contributes significantly to address a gap in the current literature in this area of research so double check that these important components are not missing in the proposal (Wisdom et al., 2015).

Most importantly, you should scrutinize the proposal to double check that the writer has explained why the problem is an important issue that needs to be addressed (Streiner, 1996). A study can be planned with care and attention to detail, but if the reviewers read the applicant's proposal and the content comes across as boring, the researcher's chance of being funded is very low (Streiner, 1996). Consider the situation of the reviewers. They review multiple grant applications at a time so it is your responsibility as a research development specialist that the proposal is easy to read so you don't make their work more difficult. If they become irritated with the applicant, the researcher's chances of getting a good review are greatly reduced (Streiner, 1996).

The proposal does not communicate the need for the research

As you review the proposal check that the applicant is telling a compelling story that persuades the reviewers to endorse their idea (Burrow-Sánchez et al., 2015). If the expert reviewers do not see the reason or "need" for the research, they will be less likely to endorse the research even if it has a sound study design and methodology (Sauer & Gabbi, 2018). Critical appraisals of the science and a well laid out and up-to-date literature review section aid the reviewers to grasp the importance of the proposed project (Lusk, 2004). Ensure that the applicant has made the most of every section within the proposal to convince the reviewers of the project's importance and feasibleness (Wisdom et al., 2015).

The abstract is incomplete

The project summary or abstract introduces the applicant's project to the reviewers so ensure the researcher gives considerable attention and energy into formulating it (Lee, 2016). The abstract is considered by many to be the most crucial component of the grant application because it is used by agency staff to direct the grant proposal to the appropriate review panel and is often the only part read by the non primary reviewers (Liu et al., 2016). The abstract provides a vital opportunity to solicit a positive reaction from the reviewers (Brownson et al., 2015). As you review the



proposal you need to check that it includes a concise background or literature review, specific aims, objectives, or hypotheses, significance and impact, relevance to society, the innovativeness of the project, methodology, and expected results (Brownson et al., 2015). Most importantly, the abstract should address how this research will address gaps in the literature and influence practice and policy to improve health (Brownson et al., 2015) so if any of this information is missing you should make suggestions to the applicant to tweak the abstract to improve it.

The proposal does not have clear and realistic aims

The specific aims section is a crucial element of a proposal (Russell & Morrison, 2010) because it is one of the first things reviewers will read, impacting how they will perceive the rest of the grant proposal (Burrow-Sánchez et al., 2015). Read the specific aims carefully to ensure that they guide the reviewers to have a good understanding of the research and instill them with passion for the proposed project (Burrow-Sánchez et al., 2015). Remind the applicant that if he/she does not sell the project to the reviewers within the specific aims section, it is unlikely that the grant proposal will receive a high score (Burrow-Sánchez et al., 2015). Check that the aims, preferably two to four aims at most, are reasonable and not overly ambitious and they provide the underlying basis on which the proposal was written (Brownson et al., 2015).

If the specific aims section is bewildering, dull, or contentious then reviewers may be less inclined to speak on behalf of the researcher's proposal (Monte & Libby, 2018). A proposal may go unfunded if it confuses or alienates the reviewers (Gotley, 2000). Verify in your review that reasonable and scrupulous methodologies are used to address each of the aims and test the hypotheses (Burrow-Sánchez et al., 2015).

The grant proposal is not clear and concise

As a grant professional, remind the applicant that reviewers are human, so it is critically important that they can easily comprehend what the researcher is planning to do and why this research undertaking is so important (Gemayel & Martin, 2017). Check that the proposal is written in such a way that it is succinct and straightforward, introduces a persuasive argument, and the message is easy for the reviewers to fathom and grasp (Lusk, 2004). Remind the applicant to prevent reviewer fatigue, strive for clarity and conciseness, and avoid verbosity so the reviewer doesn't have to search through a proposal to figure out the gist of the ideas being presented (Schepers et al., 2000).

Emphasize to the applicant that reviewers are typically busy researchers themselves who will be reviewing the grant application with time borrowed from other important activities. Point out to the researcher that the reviewers will likely not be an expert in their own field and most likely, they will have a limited amount of time to review the grant proposal. During your review, make every effort to make suggestions to the applicant to make the proposal clear, concise, focused and void of jargon (Inouye & Fiellin, 2005). Make sure that the relevance and impact of the proposed project is crystal clear (Inouye & Fiellin, 2005). Advise the applicant that if the reviewer cannot understand the ideas presented and must strive to comprehend the information presented within the proposal, the result will likely be a less than favorable review and a low score (Liu et al., 2016).



The grant application does not demonstrate the feasibility of the study

Check that the proposal is written to persuade the reviewers that the hypothesis is testable, and the research design is appropriate (Wescott & Laskofski, 2011). As you review the grant application, verify that the reasons why the methods and techniques that the researcher is planning to use are both acceptable and sufficient to finish the study and will either back or negate the hypothesis (Roberts & Kaack, 2000). Investigate the proposal that it convinces the reviewers that the study design is reasonable and well thought out and that the study outcomes are attainable. Most importantly, check that the applicant has included a small pilot study or other preliminary research that has been done relevant to the proposal to demonstrate that the study is achievable (Sandler et al., 2005).

References are also important as reviewers may conduct a literature search to assess if the proposed study is innovative, appropriate, and precise (Liu et al., 2016). Advise the applicant that if the references in the literature review are not current, it may be seen as a red flag to the reviewers that the researcher hasn't stayed abreast of new studies in this area of research (Streiner, 1996).

The proposal does not highlight the credibility of the research team

Admonish your faculty member that it is critical to persuade the reviewers that the research team is qualified and skilled (Sandler et al., 2005). Detailed narratives are vital to communicate the principal investigator's skills and competence and help the reviewers comprehend the proposed work (Lusk, 2004). Preliminary data is essential as it allows the reviewers to appraise the knowledge and abilities of the research team (Liu et al., 2016). Ask the applicant to consider adding more experienced researchers to the team, if necessary to demonstrate to the reviewers that the proposed team has the needed know-how and training (Brownson et al., 2015).

The grant application does not confirm the researcher's institutional support

When reviewing the proposal, it is critical to confirm that the applicant assures the reviewers of adequate institutional support (Sandler et al., 2005). The infrastructure and equipment must be sufficient and the environment of the institution favorable to carry out the proposed research needs to be described in the proposal (Roberts & Kaack, 2000). The reviewers have no way of knowing what resources and support are available at each institution so remind the applicant to outline office space, labs, administrative staff, IT support, and other institutional support that will be available to carry out the research project (Burrow-Sánchez et al., 2015).

The study is not well designed

During your review, determine if the applicant has pitched the study design and methodology to the reviewers so they will be enthusiastic about the proposal during the review process (Lusk, 2004). Point out to your faculty members that reviewers will favor approaches to data analysis that are well thought out and break new ground (Wisdom et al., 2015). Most importantly, remind your faculty members to let the reviewers know the limitations of the study design and provide logical reasons for the choice of design (Streiner, 1996). Although the reviewers need a thorough overview of the proposed experiments, they do not seek detailed descriptions about standard experimental procedures (Gotley, 2000).

The proposal does not stand alone from the appendices

Remind the applicant that the reviewers are busy people who may not have time to read the appendix materials so the faculty member shouldn't put important aspects of the science that are crucial to the review in the appendices (Brownson et al., 2015).

The proposal does not communicate the significance of the research findings

During your review, it is essential to check that the applicant has informed the reviewers of the public health issue the proposal is addressing as well as its impact on society, how the study will investigate the problem, and how the study findings will impact future research in this field (Burrow-Sánchez et al., 2015). Check the proposal so that it is written with a clear message for the reviewers as to how the proposed research will address an existing gap in the literature and advance scientific knowledge (Burrow-Sánchez et al., 2015). Verify that the significance section is written as if the aims are achievable to persuade the reviewers as to why this research should be funded (Burrow-Sánchez et al., 2015). Review the significance section for effective use of headings to effectively guide the reviewers through it to point out key achievements (Burrow-Sánchez et al., 2015).

The proposal does not include any diagrams to explain complex ideas

Counsel your faculty member to help the readers understand the hypothesis and the main objectives/aims of the research, and to consider using a diagram as visual graphics to express in one glance what it could take many lines of text to explain (Gemayel & Martin, 2017). Point out to the applicant that a proposal that looks like a blur of text with no spaces and no diagrams will likely irritate your reviewers (Gemayel & Martin, 2017).

The grant application does not include a timeline

Check that the proposal incorporates a timeline as it is essential to show the reviewers that the researcher has thought through the important aspects of the project and how they relate back to the overall goal of the project (Burrow-Sánchez et al., 2015). This type of visual aid enables reviewers to assess in one glance the probability of completing the project within the required time frame (Burrow-Sánchez et al., 2015). Explain to the applicant that the reviewers will utilize the timetable to assess if enough time has been designated for each component of the study and the time each team member will spend on the project is sufficient (Knafl & Deatrick, 2005).

The budget is not well thought out

Communicate to the investigator how important it is to demonstrate to the reviewers that the study is well thought out and all the resources needed to complete the research are included in the budget (Knafl & Deatrick, 2005). As you review the budget, check that the researcher's expenses are justified as to why they are needed to complete the research project to achieve a more favorable evaluation from the reviewers (Patil, 2017). Caution the faculty member that reviewers are usually well aware of the costs of research so tell them to refrain from asking for overly exorbitant amounts of money in the budget as the reviewers can tell if the applicant is padding the budget and will likely be perturbed by any extravagant requests (Gotley, 2000).

Although it is uncommon for a grant application to be rejected based solely on the budget, advise the researcher not to falsify the numbers or ask for more money than needed so the reviewers don't think the applicant is trying to trick them (Streiner, 1996). Verify that the proposal doesn't describe more research than what is asked for in the budget, otherwise the reviewers will likely think that the researcher doesn't understand the monetary requirements to complete the research project (Lusk, 2004).

The researcher's CV is lacking in experience and expertise

Remind the faculty member that the most relevant question that will be discussed around the reviewer table is whether the researcher has the necessary experience and expertise to complete the proposed research (Streiner, 1996). Prompt a new investigator that has a sparse number of publications or limited funding to seriously consider having co-investigators on the team whose areas of expertise are essential to conduct the research study (Streiner, 1996).

The Juxtaposition of the Diverse Roles in Creating a Competitive Grant Application

The art of grantsmanship can be deconstructed into six distinct roles: Storyteller (see Table 1), Grant Writer (see Table 2), Typesetter (see Table 3), Proofreader (see Table 4), Accountant (see Table 5) and thinking like a Reviewer to avoid common grant writing mistakes (see Table 6). This framework is meant as a teaching tool to give guidance to research development professionals in an easy-to-understand format to comprehend the intricate mechanisms that translate to successful grantsmanship and acquire a set of tools to train grant seekers.

The interconnectedness of the six roles within the process development process is shown in Figure 1. The order in which these steps are completed is not as important as long as each of the steps is undertaken to guarantee a thorough review of the grant proposal. There is potential overlap among the six roles which is not an issue as achieving excellence is the standard in grant writing.

Note the cyclical nature of the proposal development process (review/revise/repeat) and how going through each of the five steps and then adding the perspective of the reviewer can lead to revisions and a more polished form of the proposal. This method can be repeated and lead to a second or third round of revisions with the ultimate goal of producing a highly refined final grant application that will be deemed fundable by the granting agency.



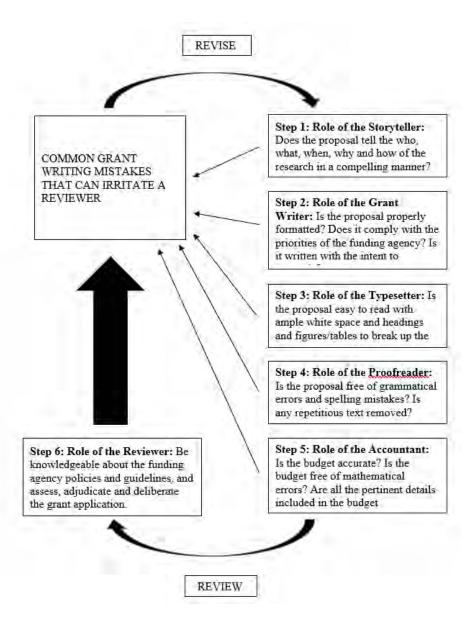


Figure 1. The Juxtaposition of the 6 Roles Within The Proposal Development Process

Click here for larger image



Conclusion

In the current broad context of increasing university emphasis on attracting extramural grant funding, this powerful and attractive framework is timely to understand the complexity of the steps in the proposal development process that translate to successful grant writing. This six-step analysis of each role within the framework includes: the Storyteller to help rewrite the proposed research in an interesting manner and pique the interest of the reader; the Grant Writer to help the applicant adhere to funding agency guidelines and pay attention to the details; the Typesetter to examine the grant application for readability; the Proofreader to check the proposal for incorrect grammar, spelling mistakes and unclearing wording or messaging; the Accountant to check the budget and the accompanying budget justification so the numbers given are accurate; and lastly, taking the perspective of the Reviewer as common grant writing flaws can weaken a proposal and discredit the researcher with the review panel.

By deconstructing the art of grantsmanship, the whole suite of proposal development processes is considered with this approach with the intention that research development professionals will have solid actionable guidance in a cohesively planned delivery to capture the complexity of the steps that translate to successful grantsmanship and acquire a set of tools to use to train grant seekers.

Authors' Note

I would like to acknowledge Michele Beaudry, Senior Programs Officer, Canadian Foundation for Innovation for her suggestion that I add a sixth role to include the perspective of the reviewer for my deconstructing the art of grantsmanship article. In addition, I would like to give special recognition to the anonymous Journal of Research Administration board member for the valuable comments and insights I received that contributed greatly to the quality of this published work.

I would also like to thank Erin Watson, Librarian, Leslie & Irene Dubé Health Sciences Library, University of Saskatchewan for her help with determining the keywords for the literature search and Sarah Lampson, Executive Director, Canadian Association for Research Administration (CARA) for reviewing the revised manuscript prior to its final submission.

Karen E. Mosier University of Saskatchewan karen.mosier@usask.ca



References

- Brownson, R. C., Colditz, G. A., Dobbins, M., Emmons, K. M., Kerner, J. F., Padek, M., Proctor, E. K., & Stange, K. C. (2015). Concocting that magic elixir: Successful grant application writing in dissemination and implementation research. *Clinical and Translational Science*, 8(6), 710-716. https://doi.org/10.1111/cts.12356
- Burrow-Sánchez, J. J., Martin, J. L., & Imel, Z. E. (2016). Applying for grant funding as a Counseling Psychologist. *The Counseling Psychologist*, 44(4), 479-524. https://doi.org/10.1177/0011000015626272
- Canadian Institutes of Health Research. (2020, November 11). Peer review manual Project. Retrieved November 5, 2020, from https://cihr-irsc.gc.ca/e/49564.html
- Clarke, C. A. (2009). Storytelling for Grantseekers: A guide to creative nonprofit fundraising. (2nd ed). Jossey-Bass.
- Cuschieri, S., Schembri-Wismayer, P., & Grech, V. (2018). WASP (Write a Scientific Paper): Writing a research grant—2, drafting the proposal. *Early Human Development*, 127, 109-111. https://doi.org/10.1016/j.earlhumdev.2018.07.014
- Cunningham, K. (2020). Beyond boundaries: Developing grant writing skills across higher education institutions. *Journal of Research Administration*, 51(2), 41-57.
- Devine, E. B. (2009). The art of obtaining grants. *American Journal of Health-System Pharmacy*, 66(6), 580-587. https://doi.org/10.2146/ajhp070320
- Ebadi, A., & Schiffauerova, A. (2015). How to receive more funding for your research? Get connected to the right people! *PLoS ONE Jul 29;10*(7), e0133061. https://doi.org/10.1371/journal.pone.0133061
- Friedland, A. J. (2009). Writing successful science proposals (2nd ed.). Yale University Press.
- Gemayel, R., & Martin, S. J. (2017). Writing a successful fellowship or grant application. *The FEBS Journal*, 284(22), 3771-3777. https://doi.org/10.1111/febs.14318
- Gotley, D. C. (2000). Grantsmanship: Achieving success in research funding. *ANZ Journal of Surgery*, 70(4), 297-301. https://doi.org/10.1046/j.1440-1622.2000.01815.x
- Higdon, J., & Topp, R. (2004). How to develop a budget for a research proposal. *Western Journal of Nursing Research*, 26(8), 922-929. https://doi.org/10.1177/0193945904269291



- Hippel, T. V., & Hippel, C. V. (2015). To apply or not to apply: A survey analysis of grant writing costs and benefits. *PLoS ONE*, *10*(3), e0118494. https://doi.org/10.1371/journal.pone.0118494
- Inouye, S. K., & Fiellin, D. A. (2005). An evidence-based guide to writing grant proposals for clinical research. *Annals of Internal Medicine*, 142(4), 274. https://doi.org/10.7326/0003-4819-142-4-200502150-00009
- Job Description and Resume Examples. (n.d.). Proofreader job description, duties and responsibilities. Retrieved April 10, 2019 from https://jobdescriptionandresumeexamples.com/proofreader-job-description-duties-and-responsibilities/
- Kerridge, S., & Scott, S. F. (2018). Research Administration around the world. *Research Management Review*, 23(1), 1-34.
- Knafl, K. A., & Deatrick, J. A. (2005). Top 10 tips for successful qualitative grantsmanship. Research in Nursing & Health, 28(6), 441-443. https://doi.org/10.1002/nur.20099
- Kraicer, J. (1997, May 5). *The art of grantsmanship*. Retrieved February 8, 2021, from https://www.hfsp.org/sites/default/files/webfm/Communications/The%20Art%20of%20Grantsmanship.pdf
- Lee, Y. (2016). Tactics for seeking and obtaining funding in academia. Family and Consumer Sciences Research Journal, 45(1), 12-16. https://doi.org/10.1111/fcsr.12177
- Liu, J. C., Pynnonen, M. A., St John, M., Rosenthal, E. L., Couch, M. E., & Schmalbach, C. E. (2016). Grant-writing pearls and pitfalls: Maximizing funding opportunities. *Otolaryngology–Head and Neck Surgery*, 154(2), 226-232. https://doi.org/10.1177/0194599815620174
- Lusk, S. L. (2004). Developing an outstanding grant application. *Western Journal of Nursing Research*, 26(3), 367-373. https://doi.org/10.1177/0193945903261843
- Mbuagbaw, L., Morfaw, F., Kunda, J. E., Mukonzo, J. K., Kastner, J., Zhang, S., Kokolo, M., & Thabane, L. (2013). Tips for charting the course of a successful health researcher career. *Journal of Multidisciplinary Healthcare*, 6, 163. https://doi.org/10.2147/JMDH.544738
- Monte, A. A., & Libby, A. M. (2018). Introduction to the specific aims page of a grant proposal. *Academic Emergency Medicine*, 25(9), 1042-1047. https://doi.org/10.1111/acem.13419



- Patil, S. G. (2017). How to plan and write a budget for research grant proposal? *Journal of Ayurveda and Integrative Medicine*, 10(2), 139-142. https://doi.org/10.1016/j.jaim.2017.08.005
- Pequegnat, W. (2010). *Grantsmanship: Necessary but not sufficient strategies for success.* In Pequegnat, W., Stover, E., & Boyce, C. (Eds.), How to write a successful research grant application (pp. 1-7). Springer. https://doi.org/10.1007/978-1-4419-1454-5 1
- Preuss, M., Eck, K., Fechner, M., & Walker, L. (2020). Research development and its workforce: An evidence-based compendium for higher education and other environments. *International Journal on Studies in Education*, 2(1), 1-25. https://doi.org/10.46328/ijonse.12
- Reed, K. (2020, January 6). *Accountant job description*. Totaljobs. Retrieved May 10, 2019 from https://www.totaljobs.com/insidejob/accountant-job-description/
- Reedsyblog. (2018, October 26). What is type setting? Your guide to interior book design.

 Retrieved April 17, 2019 from https://blog.reedsy.com/what-is-typesetting/
- Roberts, J. A., & Kaack, M. B. (2000). Grantsmanship*. *The Journal of Urology, 163*, 1544-1548. https://doi.org/10.1016/S0022-5347(05)67676-8
- Rogers, T. (2019, January 12). *How do you write a snappy and succinct news lede?* ThoughtCo. Retrieved April 19, 2019 from https://www.thoughtco.com/how-to-write-a-great-lede-2074346
- Ross, R., Reeves, J., Scarpinato, K., & Pelham, M. (2019). Success factors for university research development offices and activities. *Journal of Research Administration*, 50(3), 107-124.
- Russell, S. W., & Morrison, D. C. (2010). *The grant application writer's workbook: National Institutes of Health version*. Buellton, CA: Grant Writer's Seminars and Workshops.
- Sandler, R. S. (2002). Writing clinical grant applications. *Inflammatory Bowel Diseases*, 8(3), 196-200. https://doi.org/10.1097/00054725-200205000-00007
- Sandler, R. S., Lewis, J. D., Robuck, P. R., & Sands, B. E. (2005). Funding and grantsmanship. *Inflammatory Bowel Diseases*, 11(suppl. 1), S34-S37. https://doi.org/10.1097/01.mib.0000184847.54063.fe
- Sauer, R. M., & Gabbi, C. (2018). Grantsmanship: What? Who? How? European Journal of Internal Medicine, 57, 22-24. https://doi.org/10.1016/j.ejim.2018.10.006



- Schembri-Wismayer, P., Cuschieri, S., & Grech, V. (2018). WASP (Write a Scientific Paper): Writing a research grant–1, Applying for funding. *Early Human Development*, 127, 106-108. https://doi.org/10.1016/j.earlhumdev.2018.07.013
- Schepers, J. S., Sadler, E., & Raun, W. R. (2000). *Grantsmanship hints. Agronomy Journal*, 92(1), 1. https://doi.org/10.2134/agronj2000.9211
- Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly, 64*(1), 41-64. https://doi.org/10.1111/j.1468-2273.2009.00429.x
- Snowball Fundraising. (2018, April 17). *The fundamental grant proposal template: 8 crucial components*. Retrieved November 5, 2020 from https://snowballfundraising.com/grant-proposal-template/
- Streiner, D. L. (1996). "While you're up, get me a grant": A guide to grant writing. *The Canadian Journal of Psychiatry, 41*(3), 137-143. https://doi.org/10.1177/070674379604100302
- Torpey, E. (2014, September 5). Grant writer. Retrieved November 5, 2020 from copywriterhawaii.blog.fc2.com/blog-date-201809.html
- Walters, M. W. (2009). Write an effective funding application: A guide for researchers and scholars. Johns Hopkins University Press.
- Wescott, L., & Laskofski, M. (2011). Grant writing tips for translational research. In Espina, V. & Liotta, L. (Eds.), *Methods in Molecular Biology Molecular Profiling* (vol. 823), 379-389. Humana Press. https://doi.org/10.1007/978-1-60327-216-2 25
- Wisdom, J. P., Riley, H., & Myers, N. (2015). Recommendations for writing successful grant proposals. *Academic Medicine*, 90(12), 1720-1725. https://doi.org/10.1097/acm.00000000000000811

