Proposal Editing in University Research Administration

by

Colleen Trompeter

A Thesis Presented in Partial Fulfillment of the Requirements for the Degree Master of Science

Approved April 2019 by the Graduate Supervisory Committee:

Eva Brumberger, Chair Barbara D'Angelo Claire Lauer

ARIZONA STATE UNIVERSITY

May 2019

ABSTRACT

This project presents a mixed methods analysis of proposal editing in sponsored research administration at U.S.-based universities. As sponsored research funding has become increasingly competitive, universities have sought to support their faculty and research infrastructure by offering proposal editing services as a component of the proposal development process. However, the relative newness of proposal and research development as fields, combined with prior studies that show a general lack of research into proposal editing and faculty perceptions of proposal development resources, mean that these areas can benefit from additional focused research. This study aimed to answer two primary research questions: How do universities approach and offer proposal editing as a component of the proposal development process, and what are faculty reactions to editing services as a resource during that same process? The study consisted of two components: a survey of 32 faculty members' perceptions of editing services as an element of their proposal development, and interviews with ten research administrators and editors to discuss how editing services function within the proposal preparation process. Despite a small sample size and disciplinary homogeneity, the survey results showed that demand for institutionally provided editing services varies by research field and activity level, but that faculty showed noticeable interest in at least having the option of an editor reviewing their proposals prior to submission. Interview participants agreed that faculty who are new or early in their careers, along with faculty who speak English as a second language, are especially interested in receiving editing services. Editors themselves provide various levels of edit, dependent on their own backgrounds, editing timelines, and faculty receptiveness to the edits. When provided, edits focus on

i

compliance and grammar, but deeper edits help academic styles of writing transition into more persuasive grant writing styles to strategically position the proposal. As proposal editing services become more widespread as a way of supporting faculty and increasingly proposal quality and success, universities should implement editing services according to faculty demand and needs. Careful implementation can ensure that editing services fully support faculty while making a meaningful impact on a university's research development strategies and goals.

TABLE OF CONTENTS

Page
LIST OF TABLES
LIST OF FIGURES
CHAPTER
1 INTRODUCTION
2 LITERATURE REVIEW
Sponsor Requirements: Compliance and Recommendations7
Editing as a Faculty Recommendation8
Audience Considerations10
Early Stage Investigators and Grant Writing as a Rarely Taught Skill14
Grant Writing and English as a Second Language16
Research Administration, Proposal Development, and Research Development.17
Summary
3 METHODS
Interviews
Survey
Summary
4 RESULTS
Interview Results
Interview Results Summary
Survey Results
Survey Results Summary48

CHAPTER

5 DIS	SCUSSION	
	Growth of Editing Services	
	Everyday vs. Strategic Proposal Development	
	Editing and Career Stage	
	Editing and English as a Second Language	
	Relationship Building Is Vital	55
	Difference of Opinion on Editor Backgrounds	
	Types of Edits	
	Editing Timelines	59
	Project Limitations	60
	Conclusion and Opportunities for Future Research	61
REFE	ERENCES	64
APPE	ENDIX	
А	SURVEY QUESTIONS	69
В	INTERVIEW CODES	
С	IRB APPROVAL	80

LIST OF TABLES

Table		Page
1.	Interview Questions	24

LIST OF FIGURES

Figure	Page
1.	NSF Proposal, Award, and Funding Rate Trends, 1992–20162
2.	NIH Proposal, Award, and Funding Rate Trends, 1995–20182
3.	Institutional Level at Which Editing Services Were Provided
4.	Carnegie Classifications of Represented Universities
5.	Institution Types
6.	Distribution of "Educational Background" Code Occurrence by Participant36
7.	Distribution of "Faculty-Editor Relationship" Code Occurrence by Participant 37
8.	Distribution of "Early Stage Investigator" Code Occurrence by Participant38
9.	Distribution of "English as a Second Language" Code Occurrence by Participant
10.	Carnegie Classifications of Survey Participants' Universities41
11.	Survey Participants' Universities by Institution Type41
12.	Survey Participants' Positions at their Universities
13.	Survey Participants' Areas of Research Expertise43
14.	Survey Participants' Number of Proposals Submitted Per Year43
15.	Survey Participants' Frequency of Seeking Edits Prior to Submission44
16.	Survey Participants' Interest Levels in Editing Services45
17.	Survey Participants' Reasons for Not Using Editing Services46

CHAPTER 1

INTRODUCTION

Research ultimately contributes to the well-being of society through both scientific discoveries and the training of students to become productive members of that society. According to the National Science Board (NSB), "academic institutions conduct just under half the nation's basic research" (NSB, 2018). Within these academic institutions, sponsored (external) research funding accounts for much of their research activities. Proposals seeking that sponsored funding, then, are an important way of seeking funding that can support and further faculty research on a wider scale.

Over the years, the funding landscape for university research and grant proposals has changed dramatically. For example, as recently as 2014, funding success rates for the National Institutes of Health (NIH) hovered at 18.8%, down from 30.2% in 2003 (Krzesinski & Tobin, 2015). Universities—particularly public ones adapting to decreasing funding from state and local governments—have become increasingly reliant on external funding for research, driving up the competitiveness for that funding (Serrano Velarde, 2018). The National Institutes of Health (NIH), for example, only funded 20% of proposals received in Fiscal Year 2018 (NIH, 2019); the National Science Foundation (NSF) only funded 23% of proposals received in Fiscal Year 2017 (NSF, 2018). These numbers reflect only the latest snapshot of the federal funding landscape. Success rates fluctuate alongside public policy (Serrano Velarde, 2018), and sponsors are subject to the uncertainties of their annual budget allotments. Figures 1 and 2, below, illustrate the decline in success rates compared to the increased number of proposals submitted to NSF and NIH and the relatively static number of awards made.

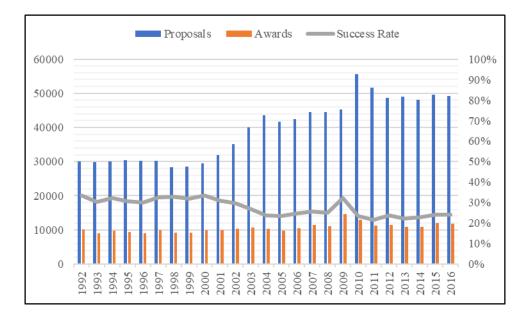
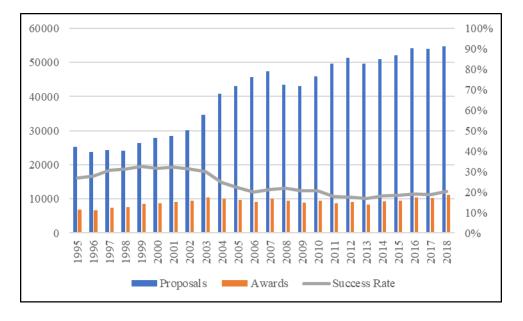


Figure 1. NSF proposal, award, and funding rate trends, 1992–2016 (NSF, 2018). Note:



FY2016 is the most recent report available.

Figure 2. NIH proposal, award, and funding rate trends, 1995–2018 (NIH OER, 2019)

Federal research grants as a share of the United States' gross domestic product (GDP) have declined consistently since 1976, with current reports showing rates of R&D at around 0.7% of GDP (AAAS, 2018). While federal funds become increasingly competitive, corporate funding of research and development (R&D) has grown since 2012 (Mervis, 2017), filling in as a source of the research funds on which academic institutions have become so reliant. Seeking research support from a range of sponsor categories (e.g., federal, local, private, corporate) tasks researchers with learning to pivot from audience to audience in their grant proposals, adapting their research descriptions to various reviewers and funding priorities.

As the list of possible sponsor audiences grows in parallel to the heightened competition for available research dollars, faculty researchers and their universities have recognized the need to submit more compelling grant proposals. These requests for funding serve a pivotal role in the current funding landscape, and a well-crafted proposal may help frame the research project in a way that is more appealing and understandable to sponsors, ultimately increasing the likelihood of funding. At an institutional level, successful sponsored research proposals are crucial for developing research infrastructure and reputation; at an individual level, faculty members can benefit from additional external funding to further their ongoing and new research projects (which, in turn, can feed back into the research reputation of the institution). In addition, many faculty members who are considered "research faculty" by their institutions rely on sponsored funding for their career advancement (Jones, McGee, Weber-Main, Buchwald, Manson, Vishwanatha, & Okuyemi, 2017). Editors, who propose revisions to help make the proposal as readable as possible, would conceivably serve a function in this environment. As an interim reader, the editor can serve as a proxy for the eventual proposal reviewer and can respond to the proposal in its working stages. By inhabiting a neutral role, the editor may identify areas for improvement that were less evident to the people writing the crucial grant proposal.

While the literature currently addresses editing as an option provided in the realm of university proposal development, fewer details are known about what goes into those editing services. The actual implementation of editing services varies widely across universities, even those operating at a similarly high research capacity. Who provides these services? What training do they have? How does their work integrate with the proposal submission process? How do faculty engage with these services?

The purpose of this thesis was to focus on the intersection of technical editing and grant proposal development in university research administration. I sought to understand the array of editing services and their implementation across various high-activity research universities to better understand how editing coincides with universities' research administration practices. In addition, I wanted to investigate faculty awareness and impressions of the proposal editing services that might be available to them at their universities.

This thesis aimed to answer the primary questions: What is the role of editing in the grant writing process within university research administration, and what are faculty perceptions of the proposal editing services available to them? Through interviews with research administrators and research development professionals, I explored the ways in which universities integrate editing services with grant proposal development, as well as how and to what extent those universities provided their faculty with access to those editing services. Through surveying of faculty members at various universities, I gained information on the types of resources that faculty members use and prefer for their proposal development processes, including the extent to which faculty utilize an editing service. My project aims to offer administrative and faculty perspectives on the existence of institutional proposal editing resources that might offer support to faculty and universities during this era of competitive appeals for research funding.

CHAPTER 2

LITERATURE REVIEW

Scientific writing, in all its forms (e.g., articles, editorials, books, reviews), carries a heavy responsibility of communicating information, outcomes, and results. As Rabinowitz and Vogel (2009) write,

[S]cience depends on effective communication, internally (among scientists), as well as in its relationship with society at large. [...] Sound communication to the "outside" (meaning, non-scientific) world [...] is also critical for science in maintaining the support of the public and its representatives, and in inspiring confidence in science as a source of insight and policy in public matters great and small. (p. 7)

Grant proposal writing embodies the crossroads of scientific communication among the "inside" world of researchers and peer reviewers and the "outside" world of the public and non-expert grant reviewers. Grant proposals for external funding support seek to give the reader an understanding of the specificities of the field and the need for the proposed research; the expert researcher is making this persuasive claim to an audience that may be receptive but is ultimately reading it from a non-field expert's perspective. The grant proposals attempt to bring the proposed research out to a wider audience while bringing that audience in to the nuanced world of the research.

A grant proposal in response to a published funding opportunity announcement or request for proposals is a typical first step in receiving research funding. Grantsmanship, the art of preparing a proposal to achieve grant funding (Gitlin & Lyons, 2008), is a crucial aspect of proposal development that ensures a proposal's responsiveness to the funding opportunity's purpose and clearly states the proposed research project's purpose and significance to the field. As with any writing process, grantsmanship requires editing, revision, grammar checks, and proofreading to streamline the writing, focus the content, and polish the final product for optimized readability in its final context as a proposal submitted to a competitive review process seeking to persuade an audience of its value (Gitlin & Lyons, 2008; Clarke & Fox, 2007).

A frequent recommendation to grantseekers is to incorporate an editing component to their proposal development process (Hesselmeyer, 2017; Gomez-Cambronero, Allen, Cathcart, Justement, Kovacs, McLeigh & Nauseef, 2012). "Repeated editing and rewriting," write Gomez-Cambronero et al. (2012), "are prerequisites for a clear proposal." From sponsor guidelines, to proposal development resources listed on university websites, to scholarly articles about the grant writing process, editing emerges as a crucial grantsmanship recommendation made to faculty members.

Sponsor Requirements: Compliance and Recommendations

Most entities offering funding opportunities will also provide some guidance for formatting, structure, and content to ensure that proposals provide necessary information within a set format (NIH OER, 2016; NSF DEHR DOE, 2004; Peters & Menn, n.d.; Amazon.com, Inc., 2018). Sponsors may impose restrictions on any range of formatting and structural elements: font type, font size, margin size, line spacing, page/character/word limits, specific heading titles, order of sections, pagination location, etc. Proposals that fail a sponsor's compliance checks regarding these elements can be removed from consideration without ever being read (NIH OER, 2016; NSF DEHR DOE, 2004; Peters & Menn, n.d.; grants.gov, n.d.). For instance, the U.S. Department of Education removes up to a third of submitted proposals from consideration based solely on compliance issues (Evans, 2000).

To even be considered for a grant by most federal agencies and by many corporate sponsors, grant writers need to edit themselves within a specified format. Thus, even surface-level edits for character counts or font styles become crucial to the grant submission process. Though the actual science and the weight of the researcher's experience may be a primary subject of merit review proceedings and discussions, a researcher cannot expect those aspects of the project to bolster a proposal that has already been rejected for paginating in the header rather than in the footer. Ensuring that the proposal runs no risks of being eliminated prior to peer review based on minor flaws such as grammar and formatting has become increasingly important.

Editing as a Faculty Recommendation

In so many descriptions of the grant writing process and guidelines that researchers should follow when writing a grant proposal, a recommendation for editing emerges. Such descriptions—in books, articles, and websites—may recommend edits by the writer, by colleagues, by friends and family for a "lay perspective," or by a professional editor.

The types of edits most frequently recommended during the proposal development process include the following:

• Grammatical Edits

Even simpler scans for spelling and grammatical errors are recommended to improve the proposal's readability; Porter (2005) found that grant reviewers considered "a lack of proofreading" to be a "killer mistake" during the review process, as basic writing mistakes seemed symptomatic of a lack of care and precision. By taking the time to polish these grammatical errors, grant writers can ensure that their proposal stands a chance of being reviewed on its technical content rather than on its surface-level features.

• Content Edits

Having a fresh set of eyes review the proposal can help identify shortcomings in the writing that the writer could not see. Language that makes sense to the writer might confuse a reader who was not involved in the writing process (Gomez-Cambronero et al., 2012). Moreover, concise writing styles are preferred by reviewers (Porter, 2005).

• Compliance Edits

Ensuring that the proposal addresses the problems presented by the funding opportunity is critical regardless of the type of grant application submitted (Rabinowitz, 2017). Grant reviewers interviewed in Porter (2005) reported that, after readability, "responsiveness" to the funding opportunity was the second most important component of a proposal. If a proposal does not clearly link their research objectives to the funding opportunity priorities, then it will struggle to find support during review panels.

Regardless of the source of edits, editing and re-reading is emphasized as a feature of successful grant proposals (Hesselmeyer, 2017; Gomez-Cambronero, et al., 2012; Porter, 2005). These recommendations are typically made to the researchers themselves; most of the literature assumes an audience of faculty researchers and tasks that audience with ensuring their proposals find editing assistance (Porter, 2005; Porter, 2017; Serrano Velarde, 2018). Less attention is paid to the institutions and the support services they could provide; the burden for finding a grants specialist, review team, or assortment of successful proposals to read typically falls to the researcher (Porter, 2017).

With sponsors often reducing page or word counts, researchers also face pressure to develop a concise but impactful writing style that conveys their science in a shorter space (Groves, Rawl, Wurzbach, Fahrenwald, McCarthy Beckett, Zerwic, Given, Algase, Alexander & Conn, 2012)—a challenge that may benefit from professional editing assistance. As with most cases of editing, simply having a second pair of eyes on the text may help with making these concision edits. In addition, editors may help researchers save time by taking on these concision edits and allowing the researcher to focus on ensuring that the science is presented in a compelling way.

Audience Considerations

Expert vs. Lay Readers

Though researchers excel in their area of science, they may struggle to adapt their ideas for an audience of non-experts. Federal sponsors frequently advise grant writers to assume that their audience has a scientific background, if not one specific to the writer's field (Porter, 2003; Porter, 2017; NIH OER, 2016; NSF DEHR DOE, 2004; Peters & Menn, n.d.); thus, though researchers can assume a knowledgeable audience, they cannot assume that reviewers will know the particulars of their science without providing some background knowledge. Private sponsors might recommend that grant writers assume an audience of lay readers, as reviewers may have a range of backgrounds and technical knowledge (Google, n.d.; Facebook, n.d.). Varied audience expertise presents a twofold challenge: In addition to ensuring that readers can follow their though process and

scientific reasoning, researchers also need to provide that background knowledge while still detailing their proposed project within the previously established confines of word, character, and page limitations.

In addition, researchers often need to re-think their writing styles when preparing grant proposals, as the audience for grant proposals (and the accompanying style recommendations) drastically differ from those for typical scholarly outputs such as scholarly articles, essays, and academic journals (Porter, 2017). Researchers need to rein in the wordier and more technical "academic" style of writing that involves disciplinary language for subject matter experts in favor of a style that is shorter, visually organized by effective formatting, accompanied by charts and tables, and driven by persuasive, goal-oriented rhetoric (Humphrey & Holmes, 2009; Porter, 2017; Porter, 2003). A final, approved, and funded grant proposal ultimately functions as a "sales tool" featuring a business-like writing style that convinced its audience of its worth (Van Ekelenburg, 2010; Porter, 2017).

The "sales tool" comparison underscores the fact that even excellent science, poorly presented, can fail to make a favorable impression on grant reviewers (Porter, 2017). Some sponsors, such as the Health Resources and Services Administration (HRSA), explicitly caution applicants that "[m]any applications fail to receive a high score because the reviewers cannot follow the thought process of the applicant or because parts of the application do not fit together" (HRSA, 2018). Grant writing requires a unique display of writing skills from researchers, who may have difficulties in translating their scientific expertise into an understandable, persuasive piece of prose for a more general audience—especially when that audience is reviewing other worthy proposals at the same time.

Reviewer Needs and Context

Remembering the situational context for the proposal review process is another important facet of grantsmanship. Proposal review sessions are often additional work for peer reviewers, who may lack the time needed to sort through the details of every proposal (Porter, 2005). Reviewers from any sponsor will be reading dozens of grant proposals and will need to be able to distinguish proposals at a glance (Koppelman & Holloway, 2012). Proposals should capture the attention of even the busiest of reviewers. Review panels often discuss proposals while skimming over them and looking for answers that may arise during discussions; it benefits the researcher to write their proposal in an easy-to-skim fashion (Coveney, Herbert, Hill, Mow, Graves & Barnett, 2017). In some cases, a review panel has rejected a proposal for not including information that would answer the questions that arose during its discussions; the information was included in the proposal, but it was buried in a long paragraph without a heading, and reviewers could not locate the information they wanted (Porter, 2017).

Proposals that are clear, understandable, and free of grammatical and formatting errors that hinder reader comprehension and make reviewers doubt the writer's sense of organization are more likely to be chosen for funding (Kreeger, 2003). In fact, one study found that reviewers considered a clean and easy-to-understand proposal to be of a higher funding priority than one that offered "fresh insight" or a "convincing research design" (Porter, 2005). Not only do well-formatted and well-written proposals offer easy-tounderstand information for reviewers, they also function as proof of the researcher's capabilities. Formatted, clean, organized, well-thought-out proposals reflect well on the investigator as someone who can be trusted to carry out the proposed research and communicate the results in a meaningful and impactful way (Coveney et al., 2017; Clarke & Fox, 2007).

Investigators should remember, too, that reviewers are subject to the same emotions and foibles that investigators may bring to their grant proposals. "High differentiator" reviewers will intersperse every review panel, and these reviewers will take their impression of the investigator as a person into consideration when making a funding decision on the proposal (Lemanski, 2014). The presence of such reviewers can work in an investigator's favor if the investigator is careful to submit a professionally crafted grant proposal that gives reviewers few, if any, reasons to doubt the investigator's character or ability to carry out the proposed activities.

Ultimately, of course, success rates are contingent on factors beyond the grant proposal itself. Sponsor funding priorities can and will supersede a near-perfect grant proposal for a different area of research. Federal sponsors are particularly subject to their shifting budget allowances and strategic funding priorities. Even the worthiest of proposals and projects can be rejected by a sponsor for not quite fitting into the scope of their request for proposals. Researchers seeking external funding for their projects may need to wait and hunt for a funding opportunity that coincides with their project objectives, especially since grant proposals can take up so much of an investigator's time (von Hippel & von Hippel, 2015). Even with these external factors in play, successful proposals are more likely to be the ones that framed the research in a way that matched the sponsor's goals and perspective. As one investigator quoted in Porter (2017) said,

13

"My epiphany came when I realized that grant programs do not exist to make me successful, but rather my job is to make those programs successful." Ensuring that grant proposals take sponsor needs into consideration and make clear connections to the sponsor's goals will help a proposal succeed in the eyes of reviewers.

Early Stage Investigators and Grant Writing as a Rarely-Taught Skill

The process of applying for and receiving grant funding for research projects is difficult at any stage of a researcher's career, but new faculty deal with the added challenge of fewer research experiences.

In general, new, junior-level, and early stage investigators (ESIs) are researchers who are within their first 10 years of receiving a terminal degree and who have not yet received an independent research award (NIH, 2017). Unlike their more senior counterparts, ESIs are just starting their research portfolios and have less experience to tout when describing their capacity to undertake their proposed projects. Though some sponsors make a point of taking beginning-research status into consideration when reviewing proposals (NIH, 2017; NSF, 2019), ESIs may still find themselves competing for research funding with a lighter track record than their counterparts.

Early stage investigators (ESIs) often face heightened pressure from their institutions, mentors, and scientific communities to secure research funding early in their careers. Such early grant successes can help to launch their careers and secure tenure, but these ESIs often have the least amount of preparation for the grant writing process (Stein, Clair, Lebeau, Prochaska, Rossi & Swift, 2012; Porter, 2004; Serrano Velarde, 2018; Evans, 2000). Grant writing as a skill is rarely taught to faculty, who are often expected to simply know how to write a proposal or to have picked up the skill from a mentor at some point in their doctoral and postdoctoral training (Serrano Velarde, 2018; Walden & Bryan, 2010).

For junior-level investigators who may have little to no experience with grant writing, these constant pressures to seek grant funding may prove daunting if they lack access to a ready editor. In addition, the time spent familiarizing themselves with the sponsor limitations and adapting their writing style to the target audience could be better spent preparing a discussion of their project's scientific merits that would make the project appealing despite any relative lack of experience from the lead investigator.

After all, though unfocused writing can harm a proposal centered on a strong research idea, strong writing cannot save a weak idea (Porter, 2017)—and it is the central scientific idea that ESIs should be able to focus on. Editors could take some of this writing and administrative burden off the ESI so that the research can be properly developed. The subsequent proposal would then simply act to frame the research in the most compelling way possible.

Indeed, in some studies, faculty members have expressed a desire for proposal development support that includes some form of writing review as they prepare their grant applications (Serrano Velarde, 2018; Walden & Bryan, 2010). Some faculty members report feeling less inclined to submit research proposals when they know that little support will be available to them during the research administration process (Walden & Bryan, 2010; von Hippel & von Hippel, 2015). The pressure of securing research grants, combined with the stress of having few writing or editing support services as a faculty member and the knowledge of exactly how competitive grant

15

funding can be, can turn proposal development into a stressful process that faculty may strive to avoid as much as possible.

Some studies have found that ESIs who get discouraged from grant writing early in their careers can sometimes stop applying for sponsored project proposals altogether (Hartmann, 2011; von Hippel & von Hippel, 2015). As research funding becomes increasingly harder to secure and yet increasingly important to university budgets, universities might want to develop ways of nurturing faculty grant writing skills from early to senior career stages (Goodman, 2011; Hartmann, 2011).

Grant Writing and English as a Second Language

In recent decades, demographic shifts in the general population and in U.S.-based universities have meant that international faculty and students are increasingly represented (Marvasti, 2005; Kim, Twombly, & Wolf-Wendel, 2012). In fields such as natural science and engineering, international faculty represent 20.9% of all faculty in those fields (Kim, et al., 2012). English as a second language status may compound faculty stressors and anxieties (Kim et al, 2012) and may make grant writing an even more challenging process.

The diverse backgrounds of researchers at U.S. universities means that researchers have differing levels of comfort with grant writing, especially when English might be a second or third language (Jones et al., 2017; Kim et al, 2012; Marvasti, 2005). As relayed previously, readability is a vital characteristic of a successful funding proposal. For faculty who lack experience in grant writing for a more generalized audience, additional review of their proposals is a valued resource. Compounding factors such as ESI status and a lack of training in grant writing can make the sponsored research proposal process even more difficult to navigate for faculty researchers who do not speak English as their first language.

These added stressors may make faculty more inclined to seek out editing resources as a way to have more confidence in the submitted grant proposal and its chances of receiving funding. Thus, universities might want to prioritize such editing assistance for the increasing representation of international faculty members both as a way of supporting faculty in their pursuit of sponsored research funding and as a way of recruiting faculty who might see the availability of editing services as a favorable resource. As universities continue to seek external research funding and international faculty, editing might become an even more valuable service to provide when faculty consider their grant writing processes (Serrano Velarde, 2018).

Research Administration, Proposal Development, and Research Development

To assist faculty with submitted proposals for sponsored funding in a landscape that has become so competitive and to ensure that proposals and any subsequent funded projects are conducted in a manner compliant with sponsor guidelines, many universities use a system of research administrators to oversee sponsored research activities. While research administrators oversee the administration of sponsored projects at universities (e.g., budget development, fiscal oversight, proposal submission; Roberts, Sanders, Sharp & Wile, 2008), proposal and research developers focus on supporting sponsored project proposal development through activities such as strategic pursuit of funding opportunities, proposal editing, interdisciplinary research team building, and sponsor relations (NORDP, n.d.). Proposal developers emphasize the strategic positioning of a single proposal at a time, research developers concentrate on building the research infrastructure across an entire institution (NORDP, n.d.). Still, the lines between these three categories of support staff remain blurred and are often studied as elements within research administration.

Prior studies have compiled information on research administration and its role in managing the proposal development process within universities. However, at least one study found that the activities performed within the realm of research administration were so wide-ranging that there was "a lack of a single, definitive definition of what research management is and what it does" (Derrick & Nickson, 2014).

Research administrators manage and coordinate the administrative work involved in sponsored research projects and generally define the type of work across two categories: pre-award (proposal submission) and post-award (grant account management). However, the definition grows more nebulous from there, as research administration encompasses other task categories such as award negotiation, contracts, strategic research development, management of research at varied levels (i.e., institutional, college, school, department, and center), reporting, systems management, oversight regulations, student education, grant writing, and technical editing (from grammatical edits to full substantive edits) (Roberts, et al., 2008).

Besides revealing a wide range of job duties and professional categories under the label of "research administration," prior studies show a general lack of research into the functions of university research administration and faculty engagement with those services (Derrick & Nickson, 2014; Marina et al., 2015). Such varying deployments of research administration, combined with a lack of detailed knowledge of faculty impressions of their administrative resources, contributes to a general dearth of metrics in research administration (Marina et al., 2015). Without these metrics, each university is on its own to develop a suite of research administration services that will meet faculty and staff needs while furthering the overall goals of the university; evidence-based practices are not always available as these services are developed and introduced (Marina et al., 2015).

Available research seems to cover implementation of research administration services on a micro scale. Studies have explored faculty reactions to a single writing workshop hosted by a university (Stein et al., 2012) or the proposal development practices at a single university (Marina et al, 2015). Still other studies have explored research administrators' methods for submitting a proposal, incentive-based structures used to increase grant proposal submission rates, or perceptions of bureaucratic rigidity in university research administration (Derrick & Nickson, 2014). Fewer details are available for the intersection of technical editing as a component of the proposal development process and its correlation to research administration.

Some sources urge universities to offer some level of editing review to faculty members. In fact, Marina, Davis-Hamilton, & Charmanski (2015) surveyed faculty on their impression of the proposal development services available to them through their institutions, and 96.3% reported that they were most pleased with the proposal editing services available to them. Clearly, in some cases, proposal editing has had a positive impact on faculty's experiences with grant proposal submission.

Cole (2010) proposed that research administration should adapt itself to provide more support to faculty during proposal development, including grant writing support. Deepening the role of research administration so that it functions more as a system that supports, understands, and nurtures researchers was proposed to bridge the gap between the perceived bureaucratic red tape of research administration and the full engagement of research-active faculty members (Cole, 2010). Combined with the findings from Marina et al. (2015) that faculty are happy with editing services available to them, there seems to be an opportunity to explore further implementation of editing services as a component of sponsored projects administration at universities. As universities seek sponsored research funding in an increasingly competitive funding landscape, they might consider the range of support services offered to faculty members who are preparing sponsored grant proposals. Perhaps modifications to sponsored research offices and support staff responsibilities could help to foster a system that more fully supports faculty researchers and, in turn, sees faculty engaging with support staff more fully while preparing sponsored research proposals.

Summary

Increasingly competitive research funding combined with stressors such as a lack of thorough training in grant writing and a potential need for additional support services for international faculty leave room for universities to implement a proposal editing service for sponsored projects. Research administrators and complementary staff, such as proposal developers or research developers, can offer an editing perspective focused on compliance, grammar, and substance that could potentially help sponsored research proposals meet narrow sponsor requirements and connect with reviewers who may lack detailed subject matter expertise. However, the sprawling job responsibilities of "research administrators" and the relatively new fields of proposal and research development leave ample room for exploration of actual implementation of a proposal editing service.

20

Though the literature currently addresses editing as a broad option provided in the realm of university research administration, fewer details are known about how universities might deploy those editing services and the degree to which they make editing resources available to faculty during proposal development. This thesis explores the levels of editing services offered by universities at a more detailed level while simultaneously exploring faculty opinions on editing as a component of research proposal development. The thesis seeks to add more detail to the field and to learn more about how editing fits in to the proposal submission process.

CHAPTER 3

METHODS

This project aimed to answer two primary research questions: How do universities approach and utilize proposal editing as a component of the grant writing process, and what are faculty reactions to those editing services? This project was designed to capture information from the perspectives of both faculty and the administrators steeped in the proposal development processes. I used a mixed methods approach that included both interviews and surveying to acquire a deeper level of knowledge into editing processes and rationales related to the experiences of university research professionals and the needs of faculty.

Though case studies have provided information on the implementation of editing services at specific universities, this project aimed to provide details on the operations of editing services across a wider range of universities through interviews with the administrators and editors involved in research administration, proposal development, and university research development. A second element of the project involved surveys of faculty members at various universities and in various fields, as relatively little research has explored faculty impressions of the administrative resources available to them during proposal development. Prior to the start of data collection, Arizona State University's Institutional Review Board (IRB) reviewed and approved the processes and protocols for the survey and interviews.

Interviews

I interviewed ten individuals from various high-activity research universities who inhabited one of three roles: research administrator (no editing work performed), proposal editor/writer (extensive content editing work performed), and a fusion role of a research administrator who provided some editing services (limited/copyediting work performed). Interviewees inhabiting the "editor" role could include designated proposal editors, grant writers who perform editing services, or other professionals who may offer proposal edits as a component of their regular job duties (part- or full-time).

Interview Participant Recruitment

Interviewees were recruited via listservs within two professional communities: the Research Administration listserv provided by Health Research, Inc., and an editorfocused listserv provided by the National Organization of Research Development Professionals (NORDP). Although the listserv audiences overlapped, this distribution ensured that interview participants would have the subject matter familiarity needed to provide information about the editing services available at their respective universities. All respondents were over the age of 18.

Interview participants were chosen on a first-come, first-served basis from the available and interested pool of applicants. To filter potential participants, subjects were chosen if they worked at U.S.-based universities that are ranked as "high" or "very high" activity research institutions by the Carnegie Classification of Institutions of Higher Education (http://carnegieclassifications.iu.edu/). In this way, interviewees would be more likely to be representatives of universities with the infrastructure and capacity to have already implemented some form of editing service for faculty.

Interview Questions

All interview participants were asked a set of 10 open-ended questions (Table 1). Questions were chosen to collect foundational information about what editing services were provided and at what institutional level they were available (e.g., whether support was offered at a central office/institutional level or at a decentralized/unit level). These initial questions were planned to lay the groundwork for later questions, as they required discussion of job responsibilities and the typical components and timeline of the proposal submission process at the participants' respective universities. Later questions regarding participants' impressions of faculty responses to the editing services were designed to get information on how participants felt the resources were perceived by faculty. I wanted information on how faculty and their editors interacted and on how faculty responded to the availability of editing services. The final set of questions was intended to allow participants to reflect on how editing services operated at their institutions and whether there were pros and cons to the implementation of those services. In these questions, participants were invited to step back from their day-to-day activities and provide opinions on how, at an institutional level, editing services might be implemented differently.

	Process/Procedure Questions
1.	Describe how research administration functions at your university.
2.	What types of editing services, if any, does your university offer faculty?
3.	How do those services work within the job duties and timelines of research
	administrators?
4.	Who provides those editing services?
5.	Have your university's editing resources changed or evolved over time?

Faculty Engagement Questions

- 6. How would you characterize your faculty's impressions of the editing resources available to them?
- 7. To what extent do editing resources influence your faculty's decisions to submit proposals?

Top-Down Overview/Implementation Questions

- 8. Do you think that the availability of editing services has impacted your university's ability to submit competitive grant proposals?
- 9. Are there any recommendations you would give to another university that is considering implementing a proposal editing service?

10. Are there any drawbacks to implementing a proposal editing service?

Table 1. Interview questions. Research administrators/editors were asked the same 10

open-ended questions.

In my experience as a research administrator and in my review of available literature, I knew that representatives from research administration and research development would likely represent a spectrum of backgrounds, experience, and job duties—all shaped by the needs of their universities, colleges, and units. However, questions were chosen to be general enough to allow respondents to speak to the services offered by their university while still offering personalized responses regarding how those services impacted their daily work responsibilities.

Interview Procedure

After identifying research administrators and editors from research-intensive universities who were willing to participate, I coordinated a time and date for the interview itself. At this point, I sent formal consent emails, to which participants responded by confirming their willingness to be involved, acknowledged that interviews would be recorded and coded, and accepted the interview date. Consent emails notified respondents that the 30-minute interview would involve a discussion of proposal editing processes, roles, perspectives, and recommendations to other editors and universities based on their own experiences with technical editing and grant writing.

After receiving replies to the consent email, I scheduled a remote meeting via Zoom and sent the meeting details to the participant. Meetings were set up to automatically record all audio, reminding participants when joining the meeting that "this call is being recorded" as an extra measure to alert them to the recorded nature of the call. Interviews began with an overview of the project before transitioning into the interview questions themselves. At the end of each interview, I asked participants if they had anything else to add to the discussion; in most cases, the participants wanted to know more about the research and expressed interest at receiving more information about how other universities implement and deliver their proposal editing services.

Each interview participant received a \$10 Amazon gift card at the interview's conclusion as compensation for the time contributed to their involvement with the study.

Interview Data Analysis

Recorded interviews were transcribed by freelance transcriptionists through Rev.com. I reviewed transcripts while listening to interview audio files to ensure accurate line-by-line transcription. I also lingered on areas where crosstalk or background noise muffled the speaker's voice to decipher the speech a step further than what had been provided by the transcriptionists.

Completed transcript records were then uploaded to Dedoose for coding analysis. Each participant and university was assigned set demographics according to university research level, university status (e.g., public not-for-profit; private not-for-profit), participant role/job duties (e.g., editing/no budget administration; editing/budget administration; budget administration/no editing), and level at which editing services were offered (e.g., institutional level, college level, center level, department level). A lack of editing services was also noted, along with whether the university refers faculty to any external sources of editing support.

Responses were also coded according to emergent themes, such as reasons for providing editing services, faculty responses to editing services, levels of edit within editing services, and other thematic elements that occurred within the interviews. Additionally, responses were coded according to the emphasis participants placed on rhetoric, style, and grantsmanship when describing the grant writing process.

The coding structure helped to determine the extent to which institutions regard editing as a component of the grant writing process and situate editing services as a regular resource available to faculty. Coded responses provide details into how editing may or may not integrate into research administration processes at these universities and offer insights into how editing resources' levels of availability influence faculty and their funding pursuits.

27

Participants' responses were aggregated according to the codes. When quoting specific phrases or when citing a specific anecdotal example, participant responses were anonymized (e.g., "Administrator 1") and scrubbed of identifiable references to specific departments, investigators, sponsors, or other recognizable features as applicable.

Survey

Because the literature suggests that faculty perspectives may be under-studied, this thesis also incorporated a survey to collect additional data on faculty perspectives regarding the presence and implementation of proposal editing services at their universities. The survey gathered information on how faculty perceive the role of editing in their sponsored research proposal development processes, including the types of resources that faculty would use. Thus, the survey aimed to provide information on faculty needs and corresponding types of resources offered by universities for sponsored research.

Survey Participant Recruitment

Participation was open to faculty members at U.S.-based universities of any research activity level. In contrast to the interviews, which sought information on editing services available at targeted research-intensive universities to guarantee that the university offered some editing resources, the surveys more generally aimed to gather information on faculty perspectives on editing as a possible resource in the proposal development process.

Participants were recruited via emails sent by my thesis committee members, Drs. Eva Brumberger and Claire Lauer, to disciplinary listservs. Applicable listservs covered primarily technical communication researchers. I sent additional recruitment emails to interview participants with the request that they forward those emails as allowable within their institutions to faculty members who might have an interest in taking the survey. All respondents were required to be over the age of 18 to participate. The survey aimed to recruit at least 30 faculty participants.

Both grant-active and non-grant active faculty members were invited to participate, since non-grant-active faculty might offer information about their perceptions of their universities' research administration processes that would lend insight to the final thesis. At the end of data collection, two participants (chosen randomly from the pool of participants who provided contact information) each received a \$10 Amazon gift card for their involvement.

Survey Instrument

The survey was designed and distributed through Qualtrics and featured three demographic questions and 11 questions about proposal editing (Appendix A). The entire survey took approximately 10–15 minutes to complete. The demographic questions were included to refine the results and parse out differences in faculty perceptions according to these factors. Of keenest interest was the institution name, as this allowed comparison of editing resources across low- and high-activity research universities.

The remaining survey questions sought information on faculty's research activities, including whether editing was a typical part of their proposal submission process or not and whether they took advantage of such editing services if they were offered by their institution. Additional questions aimed to understand faculty impressions of editing services by asking about the levels of confidence and value they would assign to potential editors and proofreaders. The final category of questions asked about general faculty desires for an editing service and, if so, the types of documents for which they would want editing support.

The survey questions were designed to collect information that complemented the data I sought from the interviews with proposal editors and administrators. For example, the response options for the question on why faculty might not use an editing services were designed in anticipation of the types of responses I expected editors to provide, based on my personal experience working in research administration.

Other questions, such as the one that asked about faculty willingness to use the editing services provided to them by their institutions, directly paralleled the questions I asked the editors/administrators ("How would you characterize your faculty's impressions of the editing resources available to them?"). Another question asked whether faculty might prefer editing services if they were offered by someone with a certain skill set, which also ran alongside an interview question that inquired about the backgrounds of the people providing edits ("Who provides these editing services?"). The survey questions also touched on faculty engagement with and interest in using the editing resources available to them, another topic area that was raised in the interviews with editors/administrators ("To what extent do editing resources influence your faculty's decisions to submit proposals?").

The survey also aimed to offer information on the levels of edit faculty might want and the types of documents they would want edited, if they want anything edited at all. Willingness to seek out these editing services could be cross-referenced with demographic questions to determine if career stage (e.g., junior- vs. senior-level faculty) or research area (e.g., engineering vs. education) influenced faculty impressions of editing services.

Survey Data Analysis

Information gathered from the survey are reported in aggregated form. Results were analyzed by gauging response trends by question and comparing those against the demographic responses provided. Prevalence of response types across questions would determine whether opinions on editing services leaned decisively in one way or another, or whether divided perceptions existed.

Faculty responses to individual questions ("Have you or your colleagues ever expressed a desire for a proposal editing service?") provided needed insight into faculty demand for editing support. Responses to other questions helped to determine the areas of highest need (e.g., proposals, journal articles) if demand for editing support existed.

Summary

Interviews with research administrators and editors, combined with surveys of faculty members, provided a range of information from multiple universities. Through this spectrum of information, the project explored how universities' technical editing resources vary, how these services integrate with overall proposal development functions, and how faculty perceive the resources available to them. Together, these strands of information provided insight into how proposal editing integrates with the overall proposal submission process, including how and to what extent universities and faculty prioritize technical editing as an element of that process.

31

CHAPTER 4

RESULTS

Interview Results

Interviews with individuals involved in research administration and research proposal development provided a range of information on how universities incorporate technical editing into their research administration processes. Interview participants offered overviews and anecdotal specifics into how editing coalesces with proposal development. Participants described the types of services available to faculty, along with how those services integrate with standard proposal development and submission processes. Those participants directly involved in the editing of proposals offered overviews of how they work with faculty to edit proposals and the ways in which their editing contributions fit in with the work of faculty and administrators during the proposal submission process. Those participants who did not directly edit proposals but who worked with other team members who edited proposals spoke of their impressions of the editing processes and how they fit in to the overall sponsored research proposal submission process.

Ten participants from ten different universities provided interview data, with most of the participants representing editing services available at an institutional level (e.g., via the university's main sponsored projects office) at universities holding a Carnegie Classification of "very high" research activity. Most participants worked at public notfor-profit universities (see Figures 3–5).

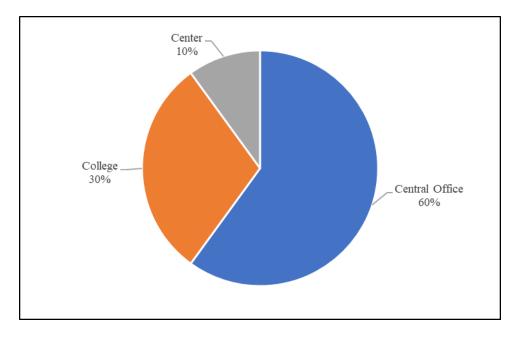


Figure 3. Institutional level at which editing services were provided.

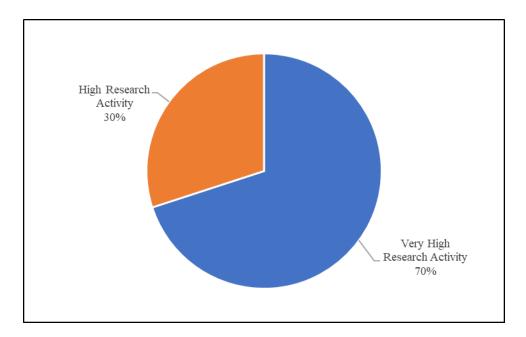


Figure 4. Carnegie Classifications of represented universities.

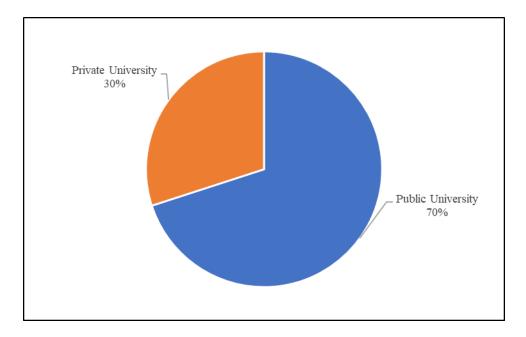


Figure 5. Institution types.

All but one of the represented universities offered a form of in-house editing service to its faculty. The university that did not have staff available to provide editing on sponsored research proposals contracted with an external agency to make editing resources available to faculty members who were preparing research grant proposals.

Interview Coding

My research was primarily focused on understanding the types of editing services made available to faculty and how those services operated vis-à-vis the proposal submission timeline and the faculty with whom they work. I coded the interviews according to common themes that emerged across the participants' perspectives. The complete list of codes occurring in interviews is provided in Appendix B.

The most dominant codes were those that concerned the dynamic between editors and the faculty they served. Though only two interview questions specifically requested information on faculty reactions to editing services, the importance of faculty's engagement with the editing services occurred frequently in discussions.

Most participants talked about seeking ways to alleviate faculty burdens during the proposal submission process. Participants spoke of wanting to save faculty time, increase faculty capacity to focus on the technical details of the proposal's science, build faculty confidence in the submitted product, navigate proposal bureaucracy so that the faculty member would not need to focus on them, and provide feedback on proposal details from an alternative perspective to strengthen the submitted proposal.

Predominantly, interview participants presented their role as a supplementary service for faculty. Services were mostly optional and dependent on faculty members initiating a request for editing services; in some cases, funding opportunity (e.g., a university may only submit one proposal to a request for proposals) and organizational structures (e.g., team structure involved interdisciplinary or Center-based faculty) dictate that faculty members must utilize the proposal development services at their university.

Other emergent themes were those related to the specific relationship dynamic between editors and faculty, which often hinged on the editor's background and level of expertise. Participants' universities appeared to be divided on whether "editing services" should be provided by someone trained in writing and communication or by someone with a Ph.D. who could review proposals on a more technical and field-specific basis. Eight of the ten participants mentioned this divide at varying degrees of frequency (Figure 6); for example, Participant 2 was highly concerned about the educational background of proposal editors and accounted for nearly 25% of all mentions of that code element. Seven of these participants worked at universities that offered both types of review services (technical editing and content reviews). However, the universities that offered both levels of review seemed to reserve the content reviews (research development) for high-dollar, interdisciplinary proposals that were of strategic importance to the university.

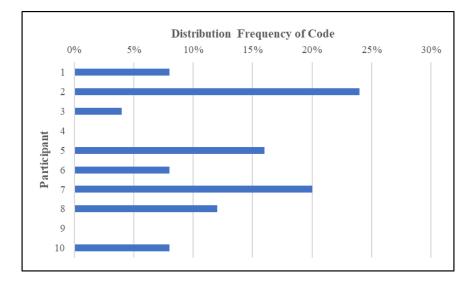


Figure 6. Distribution of "Educational Background" code occurrence by participant

Participants themselves represented the split between proposal development (technical editing) and research development (content reviews), as participants claimed varying backgrounds related to grant writing, communications, and scientific fields. Participants with a Ph.D. in their professional backgrounds commented on their ability to perform technical reviews on proposals aligned with their area of expertise; their universities might or might not have reviewers with enough arrays of expertise to cover all possible content areas that a proposal might include. However, the participants with Ph.D. backgrounds and the participants who worked with team members who had Ph.D. backgrounds all attested to the value of having technical reviews as a component of editing. Participants without Ph.D. backgrounds who came from writing or editing backgrounds emphasized the importance of writing for lay readers and reviewers.

All but one of the participants made some mention of the relationship between faculty members and editors (e.g., presence or lack of trust, presence or lack of perceived value in the edits) as a determinant of whether that faculty member would be willing to engage with the editing services (Figure 7). When occurring, the discussion of a facultyeditor dynamic was common to all levels of edit provided.

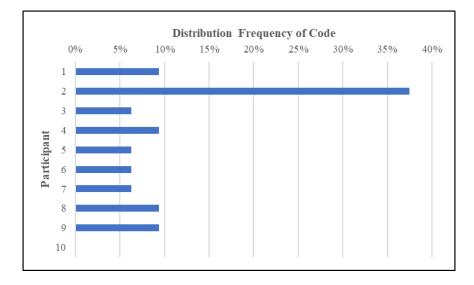


Figure 7. Distribution of "Faculty-Editor Relationship" code occurrences by participant.

Because I was interested in seeing the commonalities across universities' editing services, I also noted several codes that were mentioned by multiple participants, even if they did not occur at the frequency of some of the other code categories. For instance, the code "Early Stage Investigator" was used to label references to editing services being targeted at junior faculty or perceived differently by junior faculty (Figure 8). All but two participants mentioned that early stage investigators were more likely to seek out editing services, in part because their universities were making efforts to foster newer faculty members' sponsored research activities by connecting them with proposal editing resources. In two cases, editing resources were mentioned as part of the interview and recruitment pitches for junior faculty.

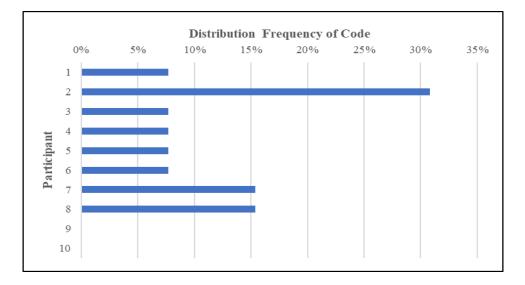


Figure 8. Distribution of "Early Stage Investigator" code occurrences by participant.

Similarly, all but two participants mentioned that editing services were especially important as a service for faculty members who speak English as a second language (Figure 9). The "ESL" code coincided most often with codes for faculty support, as grammatical editing helped to create instances where faculty felt more confident in the final submitted proposal.

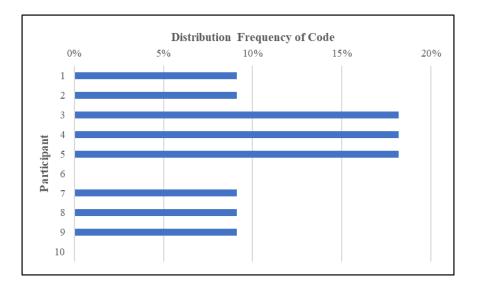


Figure 9. Distribution of "English as a Second Language" code occurrences by participant.

Interview Results Summary

Ultimately, the themes addressed by proposal development and research advancement specialists in the interviews reinforced and extended the ideas put forth in the literature review. Participants spoke of heightened competition in the realm of sponsored research and the increased pressure on faculty and universities to adapt to that competition. Very recently, universities have started to introduce and expand their proposal development resources for faculty who are receptive to engaging with the services, with varying levels of enthusiasm. Faculty who are new or early in their careers, along with faculty who speak English as a second language, are especially interested in receiving editing services, according to the editors and administrators who assist them. Editors provide various levels of edits, dependent on their own background, editing timelines, and faculty interest levels in the edits. When provided, edits focus on compliance and grammar to ensure that ideas come across accurately, but deeper edits aim to help academic styles of writing transition into the more persuasive style of grant writing.

Survey Results

There were 32 complete responses to the faculty survey and 6 incomplete responses. Incomplete responses were removed from subsequent data analysis.

Demographics

Participants responded to three demographic questions to collect data on their institution (and its respective research activity level according to the Carnegie Classifications), their position level, and their field of research.

All respondents volunteered the name of their institution. In cases where respondents identified a university with multiple campuses, I cross-referenced their field of study to determine the campus at which their specific program would be based. From interviews with the research administrators and proposal editors, I learned that editing resources available at one campus may not be available to faculty at another campus. To err on the side of caution, I wanted to ensure that the Carnegie Classifications and other analysis metrics reflected the true campus at which the faculty member was based.

Participants represented 28 universities with varying levels of research activity (Figure 10) and institution types (Figure 11).

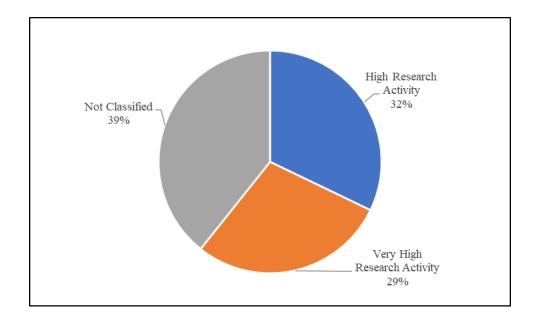


Figure 10. Carnegie Classifications of survey participants' universities.

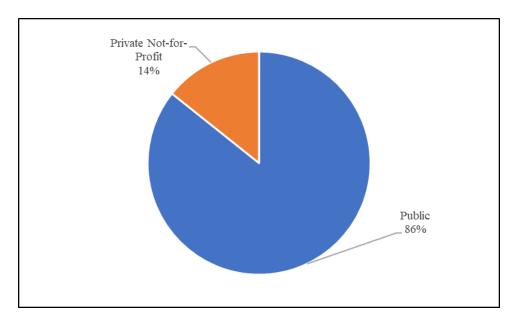


Figure 11. Survey participants' universities by institution type.

Most faculty identified as Assistant Professors, though a range of position types was represented (Figure 12). Responses in the "Other" category included "Department Chair and Professor," "Research Faculty," "Instructor," "College Assistant Professor," and "Teaching Assistant."

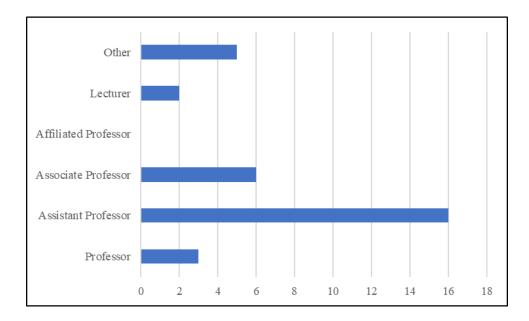


Figure 12. Survey participants' positions at their universities.

Survey participants' fields of research expertise largely fell in the areas of English and communication (Figure 13), as expected based on the distribution method. Because 16 of the 32 responses listed their expertise as "Other" with descriptions, I grouped those responses alongside the ones originally listed in the survey. Most of these "Other" responses fell in the areas of rhetoric, technical writing, and technical communication. Multiple responses were allowed so that faculty could best represent their fields.

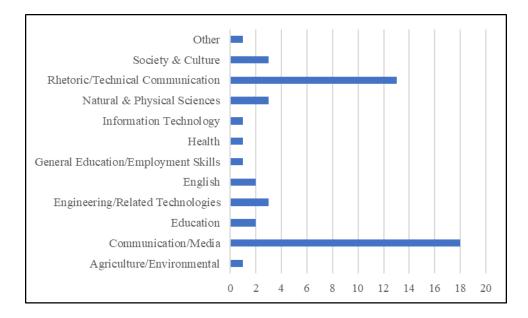


Figure 13. Survey participants' areas of research expertise.

Survey Response Overview

The majority of participants were not grant-active faculty (Figure 14). This survey result for faculty from humanities-based disciplines aligns with the literature review and with information provided by interview participants.

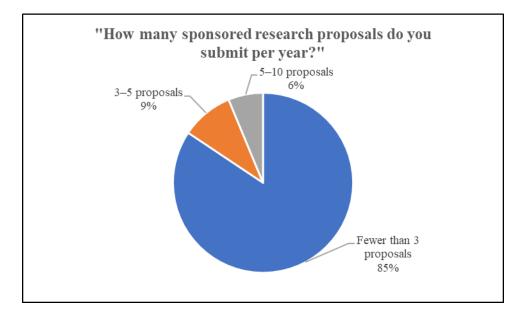


Figure 14. Survey participants' number of sponsored proposals submitted per year.

As might be expected from faculty who reside in the research areas of writing and communication, survey participants reported that they do not always seek editing assistance when preparing sponsored research proposals (Figure 15). However, the numbers are split evenly enough to suggest that even humanities-based faculty see some value in having someone else review a proposal prior to submission.

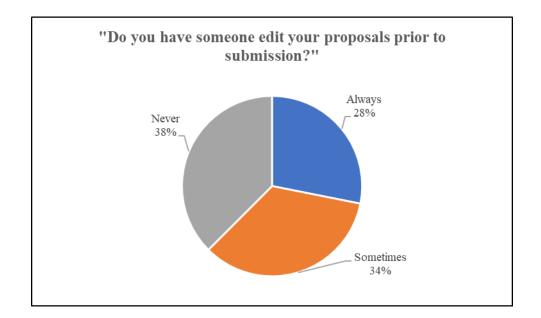


Figure 15. Survey participants' frequency of seeking edits prior to proposal submission.

Faculty were similarly split on the question of seeking editing services through their universities (Figure 16). Though some faculty reported that they would not solicit editing services through their institutions, likely a factor of their scientific backgrounds in writing and communication, an equal number reported that they would probably seek out those editing services if they were available.

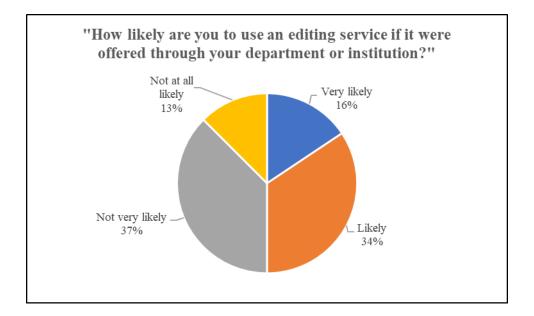


Figure 16. Survey participants' interest levels in editing services offered through their universities.

When identifying some of the reasons why they might not use an editing service if it were available to them, participants provided responses that dovetailed with reasons cited by the interview participants. Participants could select multiple responses, but the responses are listed according to frequency (Figure 17).

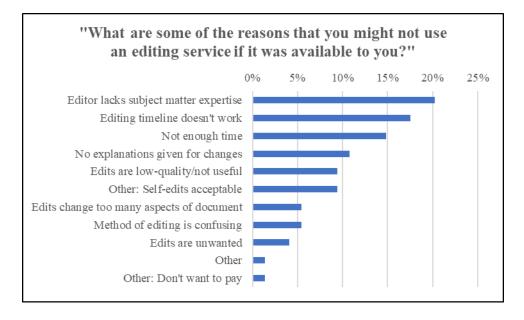


Figure 17. Survey participants' reasons for potentially not using a proposal editing service.

As reported by the interview participants, there is demand among faculty for editors who can provide some level of feedback on the technical content of the proposal. Among faculty in the fields of writing and communication, especially, there might be even less demand for standard technical edits that deal with grammar. Additionally, the next two most frequent responses dealt with the time restrictions involved with grant writing and editing. With grant writing, editing, and revisions each taking potentially large amounts of time to complete, it can be difficult to work those processes into the timelines of multiple people. Funding opportunities released only weeks or months prior to a proposal deadline can further condense the grant submission timeline. Faculty research teams might not be able to meet the well-intentioned deadlines of an institutionally provided editor and might prefer to forego formalized editing services especially if those faculty members feel comfortable with their own writing abilities, as is the case with the participant sample.

Survey Results Summary

The survey results—relatively small sample size and disciplinary homogeneity notwithstanding—provide some insight into how faculty members might respond to a proposal editing service made available by their universities. Demand for an institutionally provided editing service is likely to vary depending on faculty's sponsored research activity levels and their field of research. Funding availability varies depending on research field, so such a correlation would match nationwide funding trends. In addition, layering a formal editing timeline on top of a proposal development process already filled with team building, grant writing, application organization, budget development, and administrative hurdles might prove too burdensome for faculty.

Still, the relatively even split between faculty who would utilize an editing service if it were available and those who would not use such a resource—even among a relatively uniform participant sample—suggests that many faculty members would be interested in at least having the option of an editor reviewing their proposals prior to submission.

Faculty's interest levels in editing services are a crucial component to the implementation and utility of such resources. As more universities continue to look to editing services as an element of their research administration, proposal development, and research development enterprises, more light may be shed on a wider range of faculty impressions of editing services for sponsored research proposals.

47

CHAPTER 5

DISCUSSION

The goal of this research was to gain more information on how universities implement proposal editing services during the sponsored research administration process and how faculty might feel about the services that may or may not be implemented at their universities. When embarking on the project, I knew that universities were likely to have various types of "editing services" and that, in turn, faculty would have different reactions to those many types of editing services. However, my research still allowed me to gain some answers to the project's overarching research questions: How do universities integrate proposal editing services with grant proposal development, and what are faculty perceptions of proposal editing as a resource?

Growth of Editing Services

Heightened competition for limited sponsor funding has become a prominent concern for universities who want to both support their faculty and to see higher funding rates at their institutions. Research development offices, with their focus on overall strategic positioning of research enterprises and proposals, have grown over the last decade. Universities are also investing in proposal-level strategies to increase success rates; all of the interview participants spoke of some level of expansion in the editing services offered by their universities. Many of the participants had been hired into positions that had been created fewer than five years ago. There was consensus among interview participants that this expansion of proposal development resources—with proposal editing as a main service offered within that suite of resources—had facilitated their universities' abilities to submit more competitive and successful sponsored research proposals.

This relatively recent growth of editing services, though, meant that many faculty members might still be unaware of the full range of services available to them when preparing a sponsored research proposal. Several participants spoke of searching for ways to advertise their editing services to faculty, and several expressed concern that universities seeking to implement a proposal editing service might launch the service without proper introductions across colleges, schools, departments, and centers.

Universities considering the possibility of creating or expanding their proposal editing services might also want to seek feedback from their own faculty prior to implementation. Policies that require faculty to utilize the service to apply for funding might strain faculty's willingness to engage with the services and might put editors at a disadvantage when trying to propose edits to a proposal. In addition, universities should consider the levels of edit that faculty want from a proposal editing service. Several editors mentioned that a mismatch between faculty and editors' definitions of "edit" (e.g., proofread, compliance review, substantive edit) might create a situation where the services fail to meet expectations. As evidenced by the survey results, faculty in different research fields have varying needs and desires for an editing service. Faculty who specialize in writing and communication fields may not have a need for proofreaders or copyeditors but may be quite interested in edits from an editor who has subject matter expertise and can pinpoint areas for improvement in their technical plans. In contrast, faculty from fields less focused on writing might want an editing service that can offer a fuller range of editing levels, with more focus on effective communication and

49

persuasion, and less on subject matter concern. Faculty needs should play a role in a university's decision to implement and advertise an editing service.

Everyday vs. Strategic Proposal Development

The use of editing services often depends on the type of proposal being submitted. Large, complex, interdisciplinary, collaborative, and prestigious sponsored research proposals are more likely to receive access to the full suite of support services offered by a university. Research development offices are prepared to offer these proposals ample support in the areas of organization, grant writing, and proposal editing. These larger proposals are prioritized by the universities, and interview participants reported that faculty appreciated the ample support available to them during the submission of these proposals. In some cases, interview participants mentioned that faculty would not undertake the submission of these proposals without the research development support.

However, for proposals falling into the more common "bread and butter" proposal category, universities tend to offer fewer editing services. One participant described their university's distinction between the two levels of editing services offered as, "They don't need a full-blown missile when they just need a pistol." At the same time, many universities still offered some form of editing service to faculty who were preparing smaller research proposals. Proposal editing services might be offered as an option available to all faculty across the university, or individual colleges and departments might employ an editor for these more common types of proposal submissions. These editing services offer the same levels of edit to every proposal for which the faculty sought editing assistance, regardless of the proposals' budget amount.

Universities' distinctions between the types of editing and support services offered to faculty during proposal development likely have an impact on faculty reactions to those editing services. Faculty may want more support during the proposal development process, even if the proposal is of less strategic importance to the university; other faculty might only want to engage with editing services when the proposal is especially complex. The extent to which universities make their editing services available to faculty may impact faculty willingness to seek out those services. For instance, researchers applying for smaller grants might not feel that the application process is worth their time and effort if university resources, including editing services, are reserved for higher dollar proposals. By making editing services available for any proposal size, as some universities have done, universities might shift this perception, enabling and encouraging faculty to apply for more grant funding. Because grant activity levels vary depending on field, universities offering editing services regardless of grant amount would be able to provide additional support to researchers who may submit fewer sponsored research proposals per year. If the availability of editing services influences faculty's decisions to apply, then universities might succeed in supporting faculty while increasing the number of proposals submitted—and, potentially, increase the chances of bringing in more research grants to the university.

Editing and Career Stage

As established in the literature review, faculty who are new or early in their careers may find the proposal submission process particularly stressful and challenging. Such ESIs might appreciate the availability of a proposal editing service more than their more grant-seasoned colleagues. Indeed, nearly every participant interviewed mentioned that their offices made targeted efforts to ESIs and counted ESIs as the faculty members who were most willing to repeatedly seek out editing services. At an institutional level, universities may see value in inculcating ESIs with editing support services from the start to influence proposal success rates early in their careers and to ensure that ESIs will feel supported enough to stay with the university. One interview participant characterized their university's editing services as a way to protect the mutual investment between investigator and faculty: each side relies on the other to further its sponsored research goals. Several interview participants mentioned that proposal editing services were highlighted as a "feature" of the university during faculty hiring processes. By emphasizing the availability of these services, universities hoped to present the services as a selling point for new faculty who might be more likely to seek out editing services than their more senior colleagues, giving the university a competitive advantage compared to other institutions that the applicant might consider.

In contrast, all but one interview participant mentioned that more senior faculty were less likely to engage with the proposal editing services. Editors suggested that faculty who are later in their careers and who have already received sponsored research funding might be less interested in adding services to their grant writing processes when those processes have already proven successful. Faculty receptiveness to editing services, therefore, might vary depending on the career stage of the faculty member. Though universities might want to target ESIs as their initial audience for editing services, though, they should not disregard the needs of more established faculty and avoid advertising the service to them. Interview participants agreed that part of the appeal of an editing service is to ease the burden of submitting a proposal as much as possible. Even

52

though more established faculty might appear to not want editing services, and may say as much, some faculty might still want the option of using an editing service. Proofreads or copyedits can free up some of the time and effort involved with grant proposal submission, and some senior-level faculty might see university editing services as an ideal way to delegate those responsibilities. As editing services become more established within university research administration, senior-level faculty might express more interest in utilizing the services.

Editing and English as a Second Language

The increase in international faculty representation across universities means that institutions that do not already do so may want to consider offering proposal editing services as an available resource faculty. Faculty who speak English as a second language (ESL) may feel more comfortable preparing and submitting sponsored research proposals when they know that the proposal will be reviewed by a professional editor before submission. Nearly every interview participant mentioned that, along with ESIs, international faculty members were the most frequent users of their editing services. In such cases, ESL faculty sought primarily grammatical edits to ensure that the wording was as technically correct as possible. Two interview participants mentioned that some of their ESL faculty members treat the proposal editing services for every proposal submitted. Therefore, offering editing services might be a way for universities to increase the success of these faculty members and increase the amount of university grant funds.

Relationship Building Is Vital

One of the strongest themes in this research is that the relationship between faculty and editors is crucial to the successful implementation of the editing service. Trust, respect, and mutual support are vital elements in the dynamic between writer and editor. The editor needs to believe in the value of the work, and the writer needs to believe in the value of the proposed edits. Without that mutual respect, the edits either fail to address the writer's needs or the writer fails to consider the suggested edits.

Time and again, interview participants alluded to the need for rapport and trust with the faculty members using the editing service. Grant proposals can have so many emotions tied up in them, as they can hold significance in furthering a researcher's career (especially when sponsored proposals are a component of career development at the institution) and are a representation of the investigator's research objectives. Opening that proposal up for review by someone else can be a sensitive process that requires tact and diplomacy on the part of the editor. As editing services continue to develop, training for newly hired editors might want to include a discussion of the ways in which edits should be proposed diplomatically. Alienation between faculty and editors in the early stages of an editing service's development could harm and delay the overall implementation of editing services.

Editors spoke of themselves as having a third-party role in the proposal development process—a role that could shift to provide welcome neutrality during an emotionally charged submission process or advocacy when navigating the challenges of administration and sponsor guidelines. Faculty can receive a different type of review from an editor than from a mentor or colleague; in some cases, faculty might prefer to

54

send only an edited version of the proposal to colleagues for reviews of the technical aspects of the proposal. In this way, editors can serve in an important support role for faculty by providing them with professional reviews from a different perspective.

Universities seeking to implement a proposal editing service should consider the time it takes to develop a trust-based relationship between faculty and editors. Faculty might not immediately feel comfortable going to strangers for editing, but low faculty engagement in an editing service's early stages does not mean that engagement will necessarily stay at that rate. As an editing service's reputation grows, and word of mouth gives credence to its edits, faculty might feel more comfortable entrusting their proposals to the editors. In addition, the physical proximity between the offices of faculty and editors might impact the relationship between the two parties. Some editors mentioned that regular contact with faculty in common areas such as hallways and conference rooms helped them establish rapport with the faculty and increase the likelihood of faculty using the editing service. Editing services that are housed in areas separate from faculty offices might need to find ways of ensuring that editors can engage with their faculty and gradually build trusting relationships with them.

Difference of Opinion on Editor Backgrounds

Universities seem to take two different approaches to the types of editors they hire. Some universities prefer to hire editors who have backgrounds in writing and communication, reflecting the idea that editors should have a strong knowledge of writing and language conventions. Other universities prefer editors who have a more technical or field-specific background represented by a Ph.D., reflecting the idea that editors should provide feedback on investigators' technical approach and content. Still other universities employ both types of editors, albeit in different capacities: writingbased editors to work on proposals and Ph.D.-holding editors to work in research development and strategic positioning of the proposals. Participants' approaches to editing tended to reflect their personal backgrounds. Writing-based editors emphasized the importance of writing style and flow alongside rhetorical context and audience considerations. Editors with a more technical background mentioned the importance of proposal readability but largely focused on finding ways to highlight the innovative aspects of a proposal's science or on ensuring that the technical approach was sound.

As reflected in the survey, faculty do have an interest in receiving editing from individuals with some level of subject matter expertise. Subject matter familiarity may also help inculcate a trusting relationship between investigator and editor. Depending on the proposal, some level of subject matter expertise might be necessary to truly review the proposal's readability and responsiveness to the funding opportunity.

For faculty who do not want input on their technical content, however, an editor with more of a writing background might be best suited to meet their editing needs. Once again, faculty needs are an important consideration for universities seeking to introduce or expand proposal editing services. The editors hired by an institution should have a background reflective of the types of edits they will be expected to provide to faculty, and that means it is important for universities to have an idea of the types of edits their faculty most want to have.

Types of Edits

An impressive array of editing services was offered across the universities—and even within universities—represented in the project. Though most of the interview participants were involved with proposal development services available through their university's central sponsored projects office, every represented university also had editing services available through individual colleges, schools, and/or centers. In some cases, centrally located editors were not aware of the types of edits performed by these decentralized proposal editors; in at least one case, the centrally located editor had just recently become aware of an editor operating at a department level in a certain school. Additionally, even editors within the same office might use different editing styles. One interview participant with a background in communication described performing much more substantive style edits than a colleague who held a Ph.D. in a technical field, even though their editing services were advertised as providing identical levels of review.

The diversity of editing services within universities, combined with a tendency for little communication between centralized and decentralized proposal editors, means that few editing standards appear to be applied to proposals university-wide. Each faculty member will have a different editing experience depending on whether that faculty member has access to an editor at the department, center, college, or university level. Each level of editor may offer a different type of editing (e.g., copyedit vs. substantive edit), method for communicating those edits, level of willingness to comment on the proposal's technical approach, and style guide. In some cases, the department-, college-, or center-level proposal editor also functioned as a research administrator, meaning that the editor would have more elements to review when helping faculty prepare a proposal.

The array of editing available and the variety in its locations within the institution adds to the challenge of gauging the effectiveness of the editing services. It is hard enough to judge whether an unedited proposal would have been as successful as its edited counterpart without the fact that an "edited" proposal could have received any number of edits and editing styles at multiple levels within the institution. Here, the divide between the potential need for standardization and the recommendation to provide faculty with the level of editing support they need is at its greatest. Universities who want to implement an editing service for the first time might be best able to start that service by learning what editing needs faculty have, hiring editor(s) to suit those needs, and expecting some level of consistency in the editing types provided to faculty. The editors themselves might be best suited to gauge the editing offered and ensure its consistent application across proposals. For universities with established decentralized editing support, universities might want to survey faculty again to see what aspects of that existing service meet their expectations of an editing service and whether there are any unmet needs. Centralized editing services can strive to mirror the successes of these localized editors while ensuring that needs of a larger faculty base are met.

Editing Timelines

Another consistent theme throughout the research findings is that weaving proposal editing into an already tight proposal development timeline is the most challenging aspect of an editing service. Editors who receive proposals late (usually within a few days of the proposal deadline) cannot perform a deep edit and will only provide editing of which they are capable in limited time (e.g., edits for formatting, grammar). For a faculty member who rushed to get the proposal to the editors even within that time frame, this level of edit might be disappointing; for editors who want to support faculty as much as they can during proposal development, this level of edit might be just as disappointing. Common scenarios see proposal editors cut out of the research

58

administration process entirely when the proposal is on a tight timeline. For quick turnarounds, compliance reviews are often the only review a proposal will receive, and those are not even guaranteed. In an ideal situation, everyone would have as much time as possible to ensure that proposals are edited over several rounds of reviews.

As proposal editing services continue to grow and develop, finding ways to integrate the editing timeline into the investigator's proposal development process will be of great importance. Rapport between faculty and editors might help to address this problem, but the unique nature of every proposal means that finding time for edits in between grant writing and administrative logistics might not always happen.

Project Limitations

The project's relatively small sample size for interview and survey participants limited the scope of its conclusions. With the interviews, I soon realized that I might need to interview several types of editor at each university to fully understand the implementation of editing services at that site. As discussed previously, editors in one office did not necessarily communicate with editors in a different office, and so in some cases my interview data represent only a fraction of the editing service available within that university.

Similarly, the survey's sample size was much smaller—and narrower—than anticipated. The original recruitment strategy involved distributing the survey to faculty members at the universities where the editors were based in addition to recruiting on professional listservs. However, interview participants were unable to distribute recruitment emails to their faculty members due to institutional policies. Universities wanted to protect faculty time, identity, and data and were reluctant to authorize distribution of the recruitment emails. Thus, the resulting survey data reflect the perspectives of primarily rhetoric and communication investigators, who are not as grant-active as faculty in some other research areas. With additional time, the project might have endeavored to capture a wider sample of faculty members representing a more diverse set of research areas. Faculty impressions of editing services will likely vary depending on their level of grant activity (and research area), and so such a project would more fully capture faculty opinions.

Conclusion and Opportunities for Future Research

The project's results are consistent with the current literature, especially in the case of new and early career researchers being a likely target population for any implemented proposal editing services. The literature review's focus on editing for sponsor compliance and readability were similarly supported by the project's results, though the literature review found less of an emphasis on the importance of subject matter expertise on the part of the editor than was presented by this project's results.

As the funding landscape continues to evolve and as universities seek sponsored funding from more and more sources beyond the federal government, editing and its focus on compliance, readability, and audience can help position research proposals for sponsor consideration. However, additional information on these new and developing editing resources is needed.

As the limitations discussed above suggest, future studies that involve a more diverse set of interview and survey participants would offer a fuller set of data the implementation of proposal editing services at universities. Interviews with multiple levels of editors at each university would provide deeper levels of knowledge of how editors at different institutional levels support faculty. A survey with additional participants from a wider range of research backgrounds would offer more comprehensive data on the perspectives of faculty with regards to proposal editing services. The data presented here are a start, but future studies could explore these findings further.

Additionally, the inconsistencies in the types of editing available are interesting to consider. Would standard editing practices applied across the entire university change editing services for better or worse? Would faculty prefer a centralized editing office, or do faculty prefer more localized editing support? Other projects could potentially delve into this area more to gain more information on how editing support services might change if institutional standards were applied to the types of edits given on proposals.

In the next few years, future projects might also add insight by following up with these editing services to see how they might have changed over time. Several of the editing services I discussed were in their nascent stages. A check-in with these services in a few years' time might offer different types of information related to faculty willingness to engage with those services and how those services may have evolved again to meet faculty and sponsor needs.

A common question posed by interview participants to me was, "Does your university have any metrics for gauging the effectiveness of these editing services?" Each university seemed to either lack an evaluation system for editing services entirely or have a minimum number of metrics for their editing services. University research offices seem to want more access to ways of gauging the effectiveness of the services in which they have so recently invested, but they grapple with determining whether a proposal was funded on the merits of its writing or its science. Distinguishing the effects of editing on proposal success rates seems to be a challenging yet in-demand need at universities.

Shifts in funding availability have motivated universities to search for new and different ways of supporting their faculty during the proposal development process over the past decade or so. As proposal editing services continue to be viewed as a way of supporting faculty while, hopefully, increasing proposal quality and success rates, universities should take care to implement editing services in a deliberate and customized manner that sets the services up for long-term success. Faculty demand and needs should shape the types of editing service provided, to the extent that the university is able to make them available. Careful implementation can ensure that proposal editing services fully support faculty while making a meaningful impact on a university's research development strategies and goals.

REFERENCES

Amazon.com, Inc. (2018). *Amazon Research Awards: Call for proposals*. Retrieved from <u>https://ara.amazon-ml.com/proposals/#apply</u>

American Association for the Advancement of Science (AAAS) (2018). *Historical trends in federal R&D: Federal R&D as a percent of GDP, 1976–2018*. Retrieved from <u>https://www.aaas.org/programs/r-d-budget-and-policy/historical-trends-federal-rd</u>

Clarke, C.A., & Fox, S.P. (2007). *Grant proposal makeover*. San Francisco: John Wiley & Sons, Inc.

Cole, S. S. (2010). Reframing research administration. *Journal of Research Administration*, *41*(1), 11–21. Retrieved from <u>https://eric.ed.gov/?id=EJ886789</u>

Coveney, J., Herbert, D.L., Hill, K., Mow, K.E., Graves, N., Barnett, A. (2017). 'Are you siding with a personality or the grant proposal?': Observations on how peer review panels function. *Research Integrity and Peer Review*, 2. doi:<u>10.1186/s41073-017-0043-x</u>

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, 45(2), 11–45. Retrieved from https://eric.ed.gov/?id=EJ1157172

Evans, S.B. (2000). Writing competitive federal grant proposals: Advice for novice grant writers. *Action in Teacher Education*, 22(2), 134–141. doi:10.1080/01626620.2000.10463047

Facebook (n.d.). *Facebook research areas*. Retrieved from <u>https://research.fb.com/researchareas/</u>

Gitlin, L. N., & Lyons, K. J. (2008). Successful grant writing strategies for health and human service professionals (3rd ed.). Available from <u>https://arizona-asu-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=01ASU_ALMA511083690590003841&context=L&vid=01ASU_SU&search_scope=Everything&isFrbr=true&tab=default_tab&lang=en_US</u>

Google (n.d.). *Open advice to Google Faculty Research Awards proposal writers*. Retrieved from <u>https://ai.google/research/outreach/faq/?category=advice</u> Gomez-Cambronero, J., Allen, L. A. H., Cathcart, M. K., Justement, L.B., Kovacs, E.J., McLeigh, K.R., Nauseef, W.M. (2012). Writing a first grant proposal. *Nature Immunology*, *13*, 105–108. <u>https://doi-org.ezproxy1.lib.asu.edu/10.1038/ni.2183</u>

Goodman, I.S. (2011). Grant development for large scale research proposals: An overview and case study. *Journal of Research Administration, 42*(2), 78. Available from http://search.ebscohost.com.ezproxy1.lib.asu.edu/login.aspx?direct=true&db=aph&AN=7 0878208&site=ehost-live

Grants.gov (n.d.). *Grants 101: Pre-award phase*. Retrieved from https://www.grants.gov/web/grants/learn-grants/grants-101/pre-award-phase.html

Groves, P.S., Rawl, S.M., Wurzbach, M.E., Fahrenwald, N., Cohen, M.Z., McCarthy Beckett, D.O., Zerwic, J., Given, B., Algase, D.L., Alexander, G.L., & Conn, V. (2012). Secrets of successful short grant applications. *Western Journal of Nursing Research*, *34*(1), 6–23. <u>https://doi-org.ezproxy1.lib.asu.edu/10.1177/0193945911410278</u>

Hartmann, A. (2011). Case study: Applying the theory of planned behavior as interventions to increase sponsored project proposal submissions from liberal arts faculty. *Journal of Research Administration*, 42(1), 46. Available from http://search.ebscohost.com.ezproxy1.lib.asu.edu/login.aspx?direct=true&db=aph&AN=65207488&site=ehost-live

Health Resources and Services Administration (HRSA) (2018). *Top ten tips for applicants*. Retrieved from <u>https://www.hrsa.gov/grants/apply/grant-tips.html</u>

Humphrey, J.D., & Holmes, J.W. (2009). *Style and ethics of communication in science and engineering*. Available from <u>https://www-morganclaypool-</u> com.ezproxy1.lib.asu.edu/doi/pdf/10.2200/S00128ED1V01Y200809ENG009. DOI:10.2200/S00128ED1V01Y200809ENG009

Jones, H. P., McGee, R., Weber-Main, A. M., Buchwald, D. S., Manson, S. M., Vishwanatha, J. K., & Okuyemi, K. S. (2017). Enhancing research careers: An example of a US national diversity-focused, grant writing training and coaching experiment. *BMC Proceedings*, *11*(*Suppl 12*)(16). <u>https://doi.org/10.1186/s12919-017-0084-7</u>

Kim, D., Twombly, S., & Wolf-Wendel, L. (2012). International faculty in American universities: Experiences of academic life, productivity, and career mobility. *New Directions for Institutional Research*, *155*. doi:10.1002/ir.20020

Koppelman, G.H., & Holloway, J.W. (2012). Successful grant writing. *Paediatric Respiratory Reviews*, *13*(1), 63–66. <u>https://doi.org/10.1016/j.prrv.2011.02.001</u>

Kreeger, K. (2003). A winning proposal. *Nature*, *426*(6962), 102–103. https://doiorg.ezproxy1.lib.asu.edu/10.1038/nj6962-102a

Krzesinski, H. J., & Tobin, S. C. (2015). How do I review thee? Let me count the ways: A comparison of research grant proposal review criteria across US federal funding agencies. *Journal of Research Administration*, *46*(2), 79–94. PMID: 27274713

Lemanski, S. (2014). Proposal pitfalls plaguing researchers: Can technical communicators make a difference? *Journal of Technical Writing and Communication*, 44(2), 2011–222. doi:10.2190/TW.44.2.f

Marina, S., Davis-Hamilton, Z., & Charmanski, K. E. (2015). Evaluating research administration: Methods and utility. *Journal of Research Administration*, *46*(2), 95–114.

Marvasti, A. (2005). U.S. academic institutions and perceived effectiveness of foreignborn faculty. *Journal of Economic Issues*, *39*(1), 151–176. Available from <u>https://www.jstor.org/stable/4228117</u>

Mervis, J. (2017, Mar. 9). Data check: U.S. government share of basic research funding falls below 50%. *Science*. Retrieved from <u>https://www.sciencemag.org/news/2017/03/data-check-us-government-share-basic-research-funding-falls-below-50</u>

National Institutes of Health (NIH) (2018). *Competing applications, awards, success rates and total funding made with direct budget authority and superfund funds by NIH institutes/centers, grant mechanisms and activity codes.* [Data file]. Retrieved from https://report.nih.gov/success_rates/

National Institutes of Health Office of Extramural Research (NIH OER) (2016, Jan. 28). *Write your application*. Retrieved from <u>https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm</u>

National Institutes of Health Office of Extramural Research (NIH OER) (2019). *NIH data book*. Retrieved from <u>https://report.nih.gov/nihdatabook/</u>

National Organization of Research Development Professionals (NORDP) (n.d.). *What is research development?* Retrieved from <u>https://www.nordp.org/what-is-research-development-</u>

National Science Board (NSB) (2018, Jan. 15). *Science and engineering indicators* (*indicators*) 2018. Retrieved from <u>https://www.nsf.gov/statistics/2018/nsb20181/report/sections/front-matter/letter-of-transmittal</u>

National Science Foundation (NSF) (2019, Feb. 25). *Proposal and award policies and procedures guide*. Retrieved from https://www.nsf.gov/pubs/policydocs/pappg19_1/nsf19_1.pdf

National Science Foundation (NSF) (2018). *Funding rate by state and organization from FY 2017 to 2018 for NSF*. Retrieved from <u>https://dellweb.bfa.nsf.gov/awdfr3/default.asp</u>

National Science Foundation (NSF) (2018). *NSF merit review reports, FY1996 to 2016*. Retrieved from <u>https://www.nsf.gov/nsb/publications/pubmeritreview.jsp</u>

National Science Foundation Directorate for Education and Human Resources Division of Undergraduate Education (NSF DEHR DUE) (2004). *A guide for proposal writing*. Retrieved from <u>https://www.nsf.gov/pubs/2004/nsf04016/nsf04016.pdf</u>

Peters, A.M., & Menn, L. (n.d.). *Guidelines for writing grant proposals*. Retrieved from <u>https://www.nsf.gov/sbe/bcs/ling/guidelines.jsp</u>

Porter, R. (2017). Reprint 2007: Why academics have a hard time writing good grants proposals. *Journal of Research Administration, 48*(1), 15–25. Available from http://bi.galegroup.com.ezproxy1.lib.asu.edu/global/article/GALE|A525081293/ac3366b 6c6d9a008bf495a1b60f7854e?u=asuniv

Porter, R. (2005). What do grant reviewers really want, anyway? *Journal of Research Administration, 36*(2), 5. Available from <u>http://search.ebscohost.com.ezproxy1.lib.asu.edu/login.aspx?direct=true&db=aph&AN=2</u> <u>0037147&site=ehost-live</u>

Porter, R. (2004). Off the launching pad: Stimulating proposal development by junior faculty. *Journal of Research Administration, 35*(1), 6–11. Available from http://search.ebscohost.com.ezproxy1.lib.asu.edu/login.aspx?direct=true&db=aph&AN=15167734&site=ehost-live

Porter, R. (2003). Facilitating proposal development: Helping faculty avoid common pitfalls. *Journal of Research Administration, 34*(1), 28–33. Available from <u>http://search.ebscohost.com.ezproxy1.lib.asu.edu/login.aspx?direct=true&db=aph&AN=9</u> 609685&site=ehost-live

Rabinowitz, H., & Vogel, S. (Eds.). (2009). *The manual of scientific style*. Burlington, MA: Academic Press.

Roberts, T.J., Sanders, G., Sharp, W., & Wile, H. (2008). *National Council of University Research Administrators (NCURA): The second twenty-five years*. Retrieved from <u>https://www.ncura.edu/Portals/0/Docs/AboutUs/NCURA_History.pdf</u>

Serrano Velarde, K. (2018). The way we ask for money: The emergence and institutionalization of grant writing practices in academia. *Minerva*, *56*(1), 85–107. doi:10.1007/s11024-018-9346-4

Stein, L. A. R., Clair, M., Lebeau, R., Prochaska, J. O., Rossi, J. S., & Swift, J. (2012). Facilitating grant proposal writing in health behaviors for university faculty: A descriptive study. *Health Promotion Practice*, *13*(1), 71–80. doi: 10.1177/1524839910385895

von Hippel, T., & von Hippel, C.(2015). To apply or not to apply: A survey analysis of grant writing costs and benefits. *PLoS ONE*, *10*(3). DOI:10.1371/journal.pone.011849

Van Ekelenburg, H. (2010). The art of writing good research proposals. *Science Progress*, *93*(4), 429–442.

Walden, P.R., & Bryan, V.C. (2010). Tenured and non-tenured college of education faculty motivators and barriers in grant writing: A public university in the South. *Journal of Research Administration*, *41*(3), 85–98. Available from http://bi.galegroup.com.ezproxy1.lib.asu.edu/global/article/GALE|A286970342/7379db1 8d023d7cc9bf00279c3d13ec6?u=asuniv

APPENDIX A

SURVEY QUESTIONS

Demographic Questions				
1.	At which educational institution do you work? (Named institutions will be			
	categorized according to their Carnegie Classifications.)			
2.	What is your position at your institution?			
3.	What is your area of research?			
	Grant Submission Process Questions			
	How many sponsored research proposals (e.g., full proposals, subaward			
	proposals) do you submit per year?			
	Do you have someone edit your proposals prior to submission?			
7.	(If "always" or "sometimes" to #5): What types of edit do you request? Have you ever used the proposal editing services available to you through your institution?			
	Perspectives on Editing Questions			
	How likely are you to use an editing service if it were offered through your department or institution?			
	What level of confidence do you have in the quality of edits from the following people? (Professional colleague; subject matter expert; professional editor/proofreader (hired by you); professional editor/proofreader (hired by you); professional editor/proofreader (hired by your institution); project manager; research administrator			
10.	How much value, if any, would a staffed editor/proofreader add to your standard proposal development process?			
	Have you or your colleagues ever expressed a desire for a proposal editing service?			
	What are some of the reasons that you might not use an editing service if it was available to you?			
	Rank (from highest to lowest priority) the types of documents you would want edited. (Grant proposals; resume/CV/biosketch; grant reports; journal articles; boilerplate text/templates; webpage descriptions; newsletters; other)			
	Would the budget amount of your proposal influence your decision to seek editing/proofreading services?			

APPENDIX B

INTERVIEW CODES

Code	Description	Example of Coded Text
1. Support for Faculty (76 coded entries)	Any comment that mentioned an action intended to lend support to faculty during the proposal submission process (e.g., freeing up time, lightening their load, giving them more confidence in the final product)	 "I do think most of the people I work with are very, very busy, and they would just love not to have to worry about some of these things." "Applying to a grant is always going to be really hard, but no matter who is assisting the PI, we're all trying to make it easier for them and make it so that their bandwidth is cleared up to focus on the science of it, rather than good writing, or compliance budgeting, or page numbers, or fonts."
2. Faculty Interest Levels in Editing(36 coded entries)	Any comment that discussed faculty's willingness or reluctance to engage with editing services	 "You know, around here, they're really expected to do a lot of the work themselves." "Over time, I got fewer and fewer 'You're going to do what with my proposals?' and more 'hallelujahs.""
3. Faculty-Editor Relationship (32 coded entries)	Comment that mentioned the dynamic between the faculty member and the person performing edits as important to the editing process	 "Faculty really appreciate having a third party to come to. I'm not their colleague—it's a safe environment and no one has to know they're working with me." "The people that turn things in late or expect

4. Content Editing (32 coded entries)	Description of editing services performed as substantive or focused on technical content	 you to look at something last minute or sort of don't have respect for the position, those are the people that I've never met with face-to-face." "In a way, [my job] is to pull out the meaning." "I do deep, thorough editing" "They've put the really exciting bit at the very end, instead of right up top where people will see it. So, it may literally be a 'hack and whack' job."
5. Growth of Editing Resources (27 coded entries)	Any description of editing, proposal development, or research development resources as a new or recent service offered to faculty	 "[My position] was established in November of 2018, so there wasn't anybody doing this for the college before then." "My office was started two years ago."
 6. Educational Background (of Editor) (25 coded entries) 	Any mention of a person providing editing services as having a relevant degree (e.g., master's in communication, Ph.D. in physics) and subject matter familiarity	 "You need somebody who has more of a background in that area so that they can edit for everything— edit for the science, edit for content as well as grammar." "[She] has a master's degree in English."
7. Science vs. Writing Gets Funded (18 coded entries)	Any discussion of the tension between whether a proposal's scientific or grant writing merit is responsible for its funding status	• "I think most of the time they don't win based on scientific merit, but I also think that that scientific merit was buried and not well articulated."

8. Cohesion/Consistency Edits (18 coded entries)	Any description of an editor/administrator's work as ensuring that there is consistency across all of the attachments submitted as part of an application package	 "I could work on something that's bad science and spend 50 hours on it, but it doesn't matter because I can't change the science of it." "And they are able to look at the proposal at a higher-level view and make sure that there's continuity and that [the proposal] really is as strong as it possibly can be."
9. Grammatical Editing (18 coded entries)	Any description of an editor/administrator's work as ensuring that the proposal's writing is grammatically and mechanically correct	 "I told him that I can't review this for the science of it, but I can review it for grammar, for punctuation, for transitions, and for whether or not it should be re- organized"
10. Strategic Positioning (17 coded entries)	Any discussion of efforts taken to improve the competitive chances of receiving funding	 "The more competitive the grant funding environment has become, the more editing services we provide." "My job has been specifically helping faculty, help them right the narratives of their proposals to make them more compelling and convincing and have a more competitive and better shot at getting funded."
11. Compliance Editing (16 coded entries)	Any description of an editor/administrator's work as ensuring that the proposal is	• "Not to mention just making sure everything is compliant in terms of

	1	C / 1 · · ·
	compliant with sponsor guidelines	font and spacing and all that stuff, because to be returned without review on a technicality would be horrible, right?"
12. Success Rates (15 coded entries)	Any discussion of proposal success rates as a significant consideration to parties (i.e., faculty, editors, administrators, universities) during the proposal development process	• "Sometimes you have to go for a grant, keep reapplying until you get it, but they become discouraged"
13. Faculty Awareness of Editing Services (13 coded entries)	A mention by the editor/administrator that faculty awareness of the availability of proposal editing services is a factor (either because faculty are aware of it or because awareness needs to increase)	 "I don't know if the faculty know about the grant writer []. So I don't think it's been something highly advertised." "I think once faculty members are aware of the resources, they seek them out."
14. Early Stage Investigators (13 coded entries)	Any reference to new or early career faculty members and their receptiveness to editing services	 "We're making particular efforts to work with new faculty." "Mostly it's junior faculty, and those are the ones who then stick with us."
15. Sponsor Appeal/Presentability (13 coded entries)	Any discussion of a proposal's professional presentation or visual appeal as being considered during the proposal development process	• "Because I'm asking for \$12 million for a grant, it has to look like it seriously came from Simon & Schuster."
16. Formatting Edits (11 coded entries)	Any mention of formatting as a type of edit performed on a	• "I will totally format the entire biosketch section []. Every

	1 (2	
	proposal (e.g., font, margins)	single biosketch will look the same. That's important."
17. Senior Faculty (11 coded entries)	Any discussion of senior-level faculty members and their receptiveness to editing services	 "Even the people who have gotten tons and tons of grant dollars are really happy to have someone with a difference expertise look over their stuff." "There are a handful of faculty who do not want you to touch their proposal []. I would say some of them are more of the faculty that has been here, have been tenured for quite some time and are of the old guard."
18. Research Development (11 coded entries)	Any discussion of the university's research development efforts for strengthening its research enterprise	 "So that is one unit in the university that offers a service, but it's typically on large, complex proposals – interdisciplinary proposals." "That was one of the factors that actually led to the creation, if you will, of the research development model, was people were needing to get better rates of return on the proposals that they were submitting."
19. English as a Second Language (11 coded entries)	Any mention of faculty who speak English as a second language	• "We do have a fair proportion of faculty for whom English is not their native language. And, they tend to be a lot less confident about

		 submitting unless they know that they can get some help." "When you have an expanding faculty for whom English is a second language, I think that editing becomes more critical."
20. SPO-Level Support (10 coded entries)	Any mention of proposal editing services available to faculty members through the university's centralized sponsored projects office	 "The office was started because of the need that was seen that there wasn't anybody really going across departmental lines when it came to research administration." "We do work specifically for the Office of the Vice President for Research."
21. Budget/Admin Only – no editing (10 coded entries)	Any mention of the fact that faculty receive some level of support from research administrators that does not include editing services (i.e., levels of support vary depending on university structure and proposal type)	 "The research office does not review the technical components, just purely the formatting and requirements." "We do the budget and check it for compliance and send it out the door. That's the old model."
22. Unit-Level Support (9 coded entries)	Any mention of proposal editing services available to faculty members through decentralized department or unit offices	 "Some departments have always had a person who's half in- house editor" "Some departments have their own editors."
23. No Formal Training in Editing (8 coded entries)	Any mention of an editor or administrator as reviewing	• "Those of us who do editing, who are not in a dedicated editing

	proposals without	position, I think they
	having received formal education or training in editing	struggle with being tasked with it when maybe they don't like it, or they're not very good at it, or they love it and there just isn't a full-time position for it."
24. College-Level Support (8 coded entries)	Any mention of proposal editing services available to faculty members through mid-level hierarchical structures such as schools or colleges	 "That's really the only college that has hired its own proposal development staff." "In my college, we have a grant support service group that is responsible for submitting proposals."
25. Reviewer Needs and Context (6 coded entries)	Any discussion of the need to edit proposals so that they consider the review panels' specific backgrounds and needs	 "The chance that you're going to get somebody reviewing [the proposal] who's the exact same expert you are is so low that you really need something that appeals to somebody who's reasonably well- educated in the field, but not an expert"
26. Faculty Writing Experience (5 coded entries)	Any mention of faculty experience with writing grants	• "I would say there are people who don't like to write and they know that writing isn't their strong suit."
27. Research Administrator Background (5 coded entries)	Any mention of the proposal editor or administrator as having a background in research administration; any mention of compliance edits for standard proposals being performed by	• "One of the proposal managers has previous experience as an RA"

28. External Editing Support (5 coded entries)	the research administrator Any reference to editing services being performed by an entity external to the university	• "Prior to [hiring the editor], there was almost no support for it. [Editing] was just something that if it happened at all, the investigator had to
		find somebody to do it and probably had to pay them."

APPENDIX C

IRB APPROVAL



EXEMPTION GRANTED

Eva Brumberger CISA: Interdisciplinary Humanities and Communications 480/727-5981 Eva.Brumberger@asu.edu

Dear Eva Brumberger:

On 1/7/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Proposal Editing in University Research
	Administration
Investigator:	Eva Brumberger
IRB ID:	STUDY00009421
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	 Trompeter - Recruitment Scripts.pdf, Category:
	Recruitment Materials;
	 Trompeter - IRB Protocol.pdf, Category: IRB
	Protocol;
	 Trompeter - Consent Forms.pdf, Category: Consent
	Form;
	 Trompeter - Measures.pdf, Category: Measures
	(Survey questions/Interview questions /interview
	guides/focus group questions);
	· · · · · ·

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 1/7/2019.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Colleen Trompeter Colleen Trompeter