

Resubmission Assistance: Understanding Current Practices and Perspectives

**Sarah Polasky, Jeannie Wilson, JulieAnna Carsen,
Lillian Stover, Shelby Cowley, and Ann Nielsen**
*Arizona State University
University of Missouri – Columbia*

ABSTRACT

The impact of resubmission assistance on grant proposal success is relatively unknown. Given that a significant proportion of proposals, up to 90%, are rejected by the sponsor, this lack of information makes it difficult for Research Development (RD) professionals to decide whether to invest resources in this service. This study responded to New Opportunities for Research Development (NORD)/InfoReady's request for proposals specifically focused on resubmission assistance. The study used a combination of artifact review, interview, and survey methodologies to identify the most common types of resubmission assistance and identify areas in which RD professionals would like to offer services. This study helped identify the field's strengths and weaknesses within the area of resubmission assistance, and sets the stage for future research to clearly define the core components of research assistance.

INTRODUCTION/NEEDS ASSESSMENT

Within the past decade, up to 90% of grant proposals have been rejected by the sponsor. Almost a decade ago, Ries and

Leukefeld (2011) calculated that approximately 88% of proposals submitted by academic institutions requesting external funding were declined for funding. Hanover Research (2017) stated that between 75% and 90% of proposals are

rejected. The most recent National Institutes of Health (NIH) data (FY18) indicates that the average success rate is 20.2% (18.7% new, 25.6% supplement, 43.6% renewal; National Institutes of Health, n.d.). The National Science Foundation's (NSF) funding rate was similar; it hovered at 23–24% during fiscal years (FY) 2016–2018 and rose slightly to 27% in both FY 2019 and FY 2020 (National Science Foundation, 2020). Proposals are rejected for a variety of reasons, such as administrative issues, fit within the program, inadequate team members or resources, inadequate intellectual merit, problems with the project design, budget limitations, or poor presentation of the proposed idea (Hanover Research, 2017). Most federal sponsors provide feedback for proposers to draw on for revisions; they also provide detailed instructions for responding to reviewer feedback and processes for resubmission. Many philanthropic sponsors do the same. Resubmission is a normal part of the research funding process.

In a casual inquiry of resubmission assistance at various U.S. institutions, we found that the support, when provided, is as varied as the institutions themselves. Hutton (2018) conducted an analysis of ten mission statements for offices of research and sponsored programs from a sample of doctoral universities with high research activity (Carnegie Classification R2 institutions; Carnegie Classification of

Institutions of Higher Education, n.d.); the statements contained no mention of resubmission, though many referred to the “research lifecycle,” which naturally includes resubmission. With resubmission being such a normal part of the research funding process, we can reasonably expect that resubmission assistance would be an equally normal part of the proposal support process. But, as a burgeoning field, research development (RD) has yet to standardize the process of resubmission assistance, let alone define it. With no industry standard definition of resubmission assistance, institutions are left to establish their own definitions and methods to follow. As a result, various types of support exist with very little evidence of their effectiveness. This variety negatively impacts the efficiency and effectiveness of training in RD tasks and activities, which may result in ineffective service provision to researchers. RD professionals need a standardized definition of resubmission assistance and proven methods to be well-prepared and well-trained to provide effective resubmission assistance. High quality, consistent training will subsequently increase success rates for externally sponsored research activity. Consistency in training content and quality is difficult to achieve without clarity and definition in the field; thus, this exploratory study was necessary to inform field-specific improvements.

RD services, whether provided informally by a single individual, organized into a large, centralized office, or somewhere in between, provide support to researchers with the goal of increasing their competitiveness and success in seeking externally funded research support. RD activities typically include searching for and recommending specific funding opportunities, assisting with career planning (e.g., research trajectories), narrative editing and formatting services, graphic design, review following rejection, and “triage” of rejected proposals for resubmission. This last activity - resubmission assistance - was the focus of this study.

The primary professional organization for RD professionals is the National Organization of Research Development Professionals (NORDP). The organization includes over 1,000 members and increases membership by approximately 10% annually, which can serve as an indicator of the profession’s growth over time. Funding for this study was provided partially by a NORDP sub-group, New Opportunities in Research Development (NORD), and InfoReady, which builds and supports software for research organizations. Three of the authors (Carsen, Polasky, Wilson) are NORDP members and therefore were able to leverage this affiliation to conduct this work.

As stated above, for those institutions that do offer resubmission assistance, the support is varied. Support can be formal through institutional or external support, or informal through internal or external resources, such as articles and sponsor resources. An example of in-house resubmission assistance is from the University of Southern Maine (USM). USM had a published Policy on Proposal Resubmission (updated September 23, 2014, and no longer active) that required faculty to start the resubmission process at least 90 days before the sponsor deadline. The process included meeting with the Research Service Center to review the original submission and reviewers’ comments and participating in internal and external reviews of the revised proposal.

Some institutions offer external resubmission assistance to their researchers. The University of Colorado, Colorado Springs advertises support available to its faculty

. . . to assist [the] project team on revising a previously rejected proposal for resubmission.... This level of support included assessing alignment, competitiveness, and grantsmanship; editing of text for structure, language, and style; embedding questions for the team or prompts for further changes via margin comment; and project calls with the team (University of Colorado, Colorado Springs, n.d.).

Some institutions offer competitive funding opportunities for external resubmission support such as hiring vendors or private consultants. West Virginia University's (WVU) Research Office offers a Proposal Redevelopment opportunity "for WVU researchers with a proposal that was denied in the last 24 months." The opportunity helps investigators "find and pay for external proposal development to aid in the re-drafting and re-writing of the proposal for resubmission" (WVU Research, n.d.). Similarly, Brown University offers its faculty \$15,000 grant resubmission awards as part of a pilot program to "improve an already highly-rated proposal for re-submission" (Brown University, n.d.).

In the absence of opportunities to receive institutionally sponsored resubmission assistance, investigators can easily find articles and guides on resubmission. These resources may be available internally through their institution's office of research (e.g., Research Service Center, 2014), and are easily found externally through sponsor websites (e.g., NIH, NSF), research support sites (e.g., GrantsEdge, Hanover), and scholarly publications (e.g., Ries & Leukefeld, 1998).

As these samples display, institutions have diverse approaches to providing resubmission assistance to their faculty. However, due to the lack of peer-reviewed

research and literature on resubmission assistance, RD professionals and offices are relatively in the dark about how to define and systematize resubmission assistance to properly prepare and train their staff. In the described project, we gathered information about current resubmission assistance practices at various institutions and from various RD professionals to explore the nature of resubmission assistance and develop a common definition to guide future work.

OBJECTIVES/GOALS

The objective of this project was to solicit information from a variety of institutions and organizations to elicit whether they provide resubmission assistance and how those services are defined across various contexts. As an exploratory study, the focus was on gathering information without any preexisting hypotheses or theoretical biases. By analyzing the terms and descriptions associated with resubmission assistance, the data from this study will provide the field with an initial "landscape" view of the terms and types of services that are common to existing RD offices and units. Specifically, we asked the following research questions (RQs):

RQ1: What types of resubmission assistance are provided by RD offices/units?

RQ2: Are there any conditions (e.g., value, topic, sponsor) governing resubmission assistance?

RQ3: Are there standard elements of resubmission assistance (i.e., service or product offered at a significant majority of institutions)?

RQ4: How is resubmission assistance similar and different across institution types (e.g., Carnegie Classification R1 Institution, Primarily Undergraduate Institution, Minority Serving Institution, Nonprofit, Independent Consultant)?

SIGNIFICANCE/IMPACT

The literature on RD is largely underdeveloped, and “the path to RD becoming a field must begin with research that helps the field define and standardize the terms used to identify skills and practices.” Preuss, Eck, Fechner, and Walker (2018) acknowledged that “[a]s an emerging field, literature relevant or even specific to RD is limited and difficult to find” (p. 3). The deliverables from this project will add to the literature on RD, specifically surrounding resubmission assistance. The results will lay the groundwork for future research, such as case studies of particular resubmission assistance practices. This project could lead to future research that will allow institutions to provide the

support that is proven to be effective in increasing proposal success.

METHODOLOGY/APPROACH

To accomplish the objectives listed above, this exploratory study focused on information-gathering from a wide range of RD professionals. Being so loosely defined, even within the profession, and possibly overlooked by or unknown to researchers, it was critical to first achieve a broad understanding of the field and paint a picture, so to speak, of resubmission assistance. The project began with a series of descriptive and open-ended interviews with a variety of individuals, both independent contractors and representatives of institutions and organizations, involved in RD. Interviews were focused on gathering data about current practices in resubmission assistance. This approach was necessary as a first step in the longer-term exploration of resubmission assistance and the future development of a definition, body of literature, and operationalization of the activities and tasks that comprise resubmission assistance.

Thematic analysis of interview responses allowed for an understanding of general perspectives and provided an opportunity for development of major and minor themes within RD professionals’ experiences. This approach supported an

understanding of how sub themes among RD professionals related to each other and to major themes (Corbin & Strauss, 2008). This interpretive approach to understanding the data situates RD professional's experiences within different contexts as well as within the field (Denzin & Lincoln, 2008).

Questions asked in the interviews directly aligned with the RQs above. To incentivize participation, interviewees were entered into a raffle to receive a gift card to support their office team. A follow-up survey was used to explore two specific categories identified as most common and/or most complex via the interviews. A brief follow-up survey was used to gather additional information to better understand the services offered by different institutions. The sample included all individuals who participated in an interview. To incentivize participation, interviewees were entered into a second raffle to receive a gift card to support their office team. Approval for this study was obtained from the Arizona State University Institutional Review Board before conducting the project.

Institution Selection

The first phase of the research was to identify 30 or more institutions and organizations that were active in research and were expected to be involved with RD. The number of participants was requested by the funding organization and aligned with the typical, albeit arbitrary, minimum

sample size of 30 for generalizability in social sciences. The study used a convenience sampling method, explained below.

Member institutions of NORDP were the most easily identifiable; however, efforts were made to identify non-member organizations and individuals to include in the research project. Prospective participants were identified according to organization type (e.g., higher education, corporate, non-profit), research-related characteristics (e.g., R1, clinical and translational science awards hub [CTSAH], established program to stimulate competitive research [EPSCoR]), demographics (e.g., PUI, MSI), and/or sponsor-focus (e.g., Department of Defense [DOD] NSF, NIH). Identification of and invitations to prospective participants were designed to achieve a balanced, quasi-representative sample of the RD enterprise at large to prevent over-representation of any one type of institution. We attempted to include three to five institutions of 10 to 12 types to achieve the funder's desired diversity within the sample. Recruitment occurred in phases, or waves, as the demographic characteristics of the respondents were reviewed throughout the project.

Interviews

Ten questions (Table 1) were used during initial interviews, as well as open-ended questions to elicit additional

descriptions (e.g., “Can you explain that further?”). Interviews took approximately 10 minutes per organization. Interviews were conducted and recorded using Zoom

software, which supported both video and telephone connection. We used QuestionPro as the data capture tool during and following interviews.

Table 1. Interview Questions

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1. Does your office/unit offer resubmission assistance?
 - a. If no, what is the reason that services are not available?
 - b. If no, what services would your office/unit offer if the reason you stated was not a factor?
 - c. If yes, record their answer and proceed to question two.
 2. How does your office/unit define resubmission assistance?
 3. What specific services are offered?
 4. Does your office/unit offer specific products?
 5. What is the total size of the office? (total FTE, calculated as the total of full-time, part-time, and unpaid positions)
 6. How many employees are dedicated to resubmission assistance? (total FTE, calculated as the total of full-time, part-time, and unpaid positions)
 7. What discipline does the office/unit specialize in?
 8. Which sponsor agencies do you work with most often? (NSF, NIH, DOD, Corporate, Philanthropic, etc.)
 9. Is there anything else you’d like to share about resubmission assistance at your institution/organization/office/unit?

Survey of RD Professionals

A follow-up survey was necessary based on findings from the interviews. We sent a brief Qualtrics survey with three Likert-type questions to gather more information about the frequency, importance, and effectiveness of each type of internal support. Two open-ended questions solicited further detail and definition about services provided (i.e., concrete descriptions) and the conditions

(e.g., restrictions based on focus, value) governing service provision. Questions and response options are provided in Table 2. The survey invitation was sent to the 30 original interviewees, followed by two reminders sent at one and two weeks after the initial send date due to the positive influence of reminders on survey completion (Saleh & Bista, 2017). The survey was open for 28 days total.

Table 2. Items and Response Options Used in the Follow-Up Survey

Please indicate the <u>importance</u> of each sub-category of internal support, regardless of whether that support is offered by you, your team, or your office, by dragging and dropping the sub-categories into rank order.									
Importance	1	2	3	4	5	6	7	8	9
Please tell us the <u>frequency</u> with which each sub-category of internal support that is offered by you, your team, or your office.									
Frequency	<1x per month	1-2x per month	3-4x per month	1-2x per week	3-4x per week	Daily			
Please tell us the <u>effectiveness</u> of each sub-category of internal support that is offered by you, your team, or your office.									
Effectiveness	Extremely	Very	Moderately	Slightly	Not at all	Not Offered			
What are some concrete descriptions of your services? (open-ended)									
Are there any conditions that determine what services are offered, such as specific sponsors, departments, topics, values, or other qualifiers? (open-ended)									

Participants

Participation invitations were sent to 1,417 individuals via convenience sampling. This total includes the 1,074 subscribers to the NORDP listserv and 343 participants identified through other sources, such as conference programs, professional affiliations, and professional connections. These two groups may not be mutually exclusive. Fifteen interviews resulted from the NORDP listserv (1.4% response rate) and 15 interviews resulted from the targeted invitations (4.4% response rate). We conducted 30 interviews as planned, so the overall 2.1% response rate does not indicate a weak response from the recruitment process.

Inclusion was limited to two participants per institution, unless there were different teams at each institution that

operated separately, which was the case for the ASU respondents (three respondents total, representing two distinct teams). Ultimately, we did not need to turn away any respondents as they all fit the selection criteria.

Institutional Characteristics

Interviewees were primarily from institutions of higher education (24), but also include corporations, independent consultants, non-profits, and PreK-12 education. Research-related characteristics for interviewees' organizations include:

- 20 public institutions
- 19 Carnegie Very High or High institutions
- 12 affiliated medical schools
- 7 primarily undergraduate institutions
- 7 land-grant institutions

- 6 institutions in an EPSCoR state
- 4 private institutions
- 3 CTSA Institutions (2014–2019)
- 3 MSIs
- 2 research institutes
- 2 Historically Black Colleges and Universities (HBCUs)

RESEARCH QUESTIONS

Four research questions were explored:

- RQ1. What types of resubmission assistance are provided by RD offices/units?
- RQ2. Are there any conditions (e.g., value, topic, sponsor) governing resubmission assistance?
- RQ3. Are there standard elements of resubmission assistance?
- RQ4. How is resubmission assistance similar and different across institution types?

RESULTS

RQ1. Types of Resubmission Assistance

During data collection and analysis, the project team conducted and transcribed text from 30 interviews, followed by a content analysis of the text. The analysis resulted in 37 codes of frequently occurring terms (see Table 3). The highest-frequency code was “Internal Feedback” with 137 instances or an average of 4.6 mentions per interview. Other high-frequency codes were “Revise & Resubmit” (84; 2.8 per interview), “Sponsor Feedback” (79; 2.6 per interview), and “Financial Support” (33; 1.1 per interview). During the thematic analysis, the project team explored the code “Internal Feedback” in greater detail as it appeared 38% more times than the second highest-frequency code “Revise and Resubmit.”

Table 3. Resubmission Assistance Interview Codes¹

1. Defined ²	14. Humanities	27. Reread
2. Undefined ²	15. Arts	28. Revise & Resubmit
3. Sponsor Feedback	16. English & Languages	29. No Services
4. Different Agencies	17. Sustainability & Environment	30. Sponsor Timelines
5. Repurposing	18. Medical & Health	31. All Disciplines
6. Formal	19. Broader Impacts & Diversity	32. Grant Lifecycle
7. Informal	20. “STEM”	33. Financial Support
8. Science	21. Value Add	34. Service Thresholds
9. Technology	22. Internal Feedback	35. Competitive Intelligence
10. Engineering	23. Program Officer	36. Tools & Resources
11. Mathematics	24. More Funding	37. Emotions
12. Education, K12	25. Meetings	
13. Social Sciences	26. Scoring	

¹ Codes are ordered in the way they were identified during analysis. Many are grouped logically, such as the content areas (items 8-18).

²The codes “defined” and “undefined” were limited to the second interview question: “How does your office define resubmission assistance?”

Interestingly, “No Services” being offered was mentioned 36 times. This instance reframed the interview into developing a wish list of services; unfortunately, the “wish list” feedback did not yield sufficient compelling information to merit analysis or reporting.

The second round of thematic analysis revealed 10 distinct sub-themes related to “Internal Feedback” (see Table 4). Of the ten sub-themes, nine were well defined

contextually; however, the context of the sub-theme “Range of Services (Unspecified)” was ambiguous. To contextualize the “Internal Feedback” code more robustly, the team designed a follow-up survey composed of five questions. The Likert-scale questions excluded “Range of Services (Unspecified)” as a sub-theme; it was instead explored using an open-ended question, which is explained below.

Table 4. Internal Feedback Code Sub-Themes

1. Address Reviewer Comments
2. Consult & Strategize
3. Engage Collaborators
4. Improve or Reframe the Proposal
5. Internal Peer Review
6. Manage Scheduling & Accountability
7. Prepare or Train Faculty
8. Provide Feedback, Advice, or Analysis
9. Write & Edit
10. Range of Services (Unspecified)

The follow-up survey was sent to the original 30 interviewees to further explore “Internal Feedback.” The survey was administered virtually in February–March to the same sample of 30 interviewees who participated in the telephone interviews in 2020. During survey design, the term “Internal Support” was used in place of the code “Internal Feedback” to avoid confusion with sub-theme 8, “Provide feedback, advice, or analysis.” The survey

consisted of three closed-ended questions exploring the importance (rank order), frequency (daily to almost never), and effectiveness (very to not at all) of the nine sub-themes within “Internal Support” and two open-ended questions asking respondents to provide (1) a concrete description of services; and (2) conditions that govern services. The survey garnered 23 responses (77% response rate).

Importance. “Consult and strategize” was ranked first for importance among the nine sub-categories. Other high-ranking sub-categories were: “Provide feedback, advice, or analysis” (2nd); “Address

reviewer comments” (3rd); and “Improve or reframe the proposal” (4th).” See Figure 1 for all sub-category importance rankings; lower values represent higher importance.

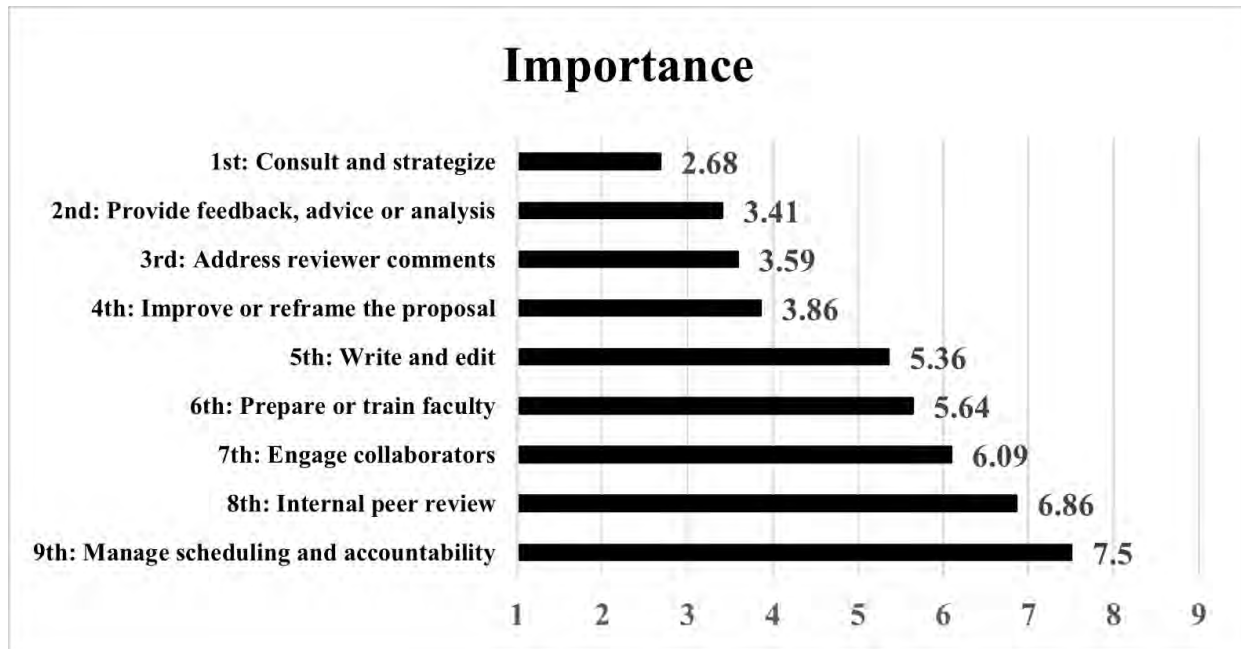


Figure 1. Importance of sub-categories

Frequency. On average, the most frequently used Internal Support type was “Provide feedback, advice, or analysis,” which was used weekly. Other weekly types were: “Consult and strategize”; “Write and Edit”; and “Improve or reframe the proposal.” The remaining sub-categories

were used monthly, on average. None of the subcategories had an average Daily, Once a Year, or Almost Never rate of use. See Figure 2 for all sub-category frequency ratings; lower values indicate higher frequency.

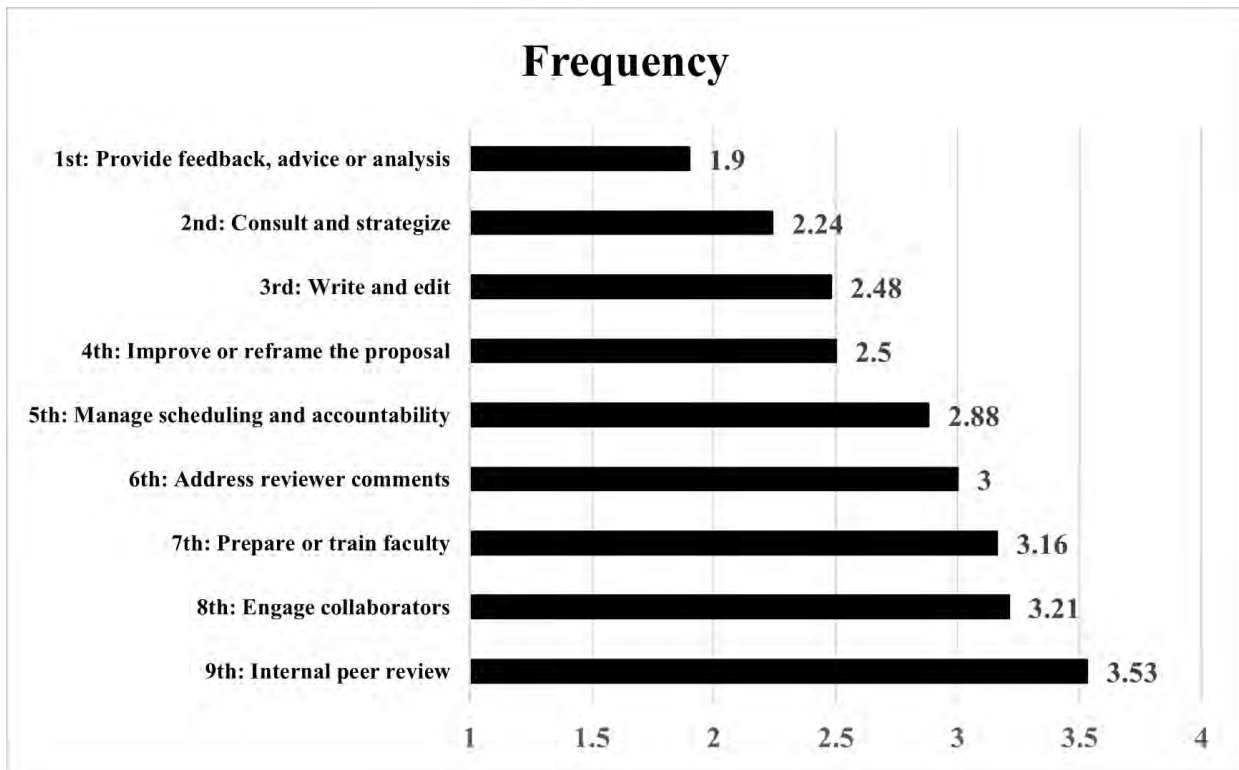


Figure 2. Frequency of sub-categories

Effectiveness. The most effective sub-category strategy, on average, was “Address reviewer comments.” This was followed closely by: “Write and edit”; “Consult and strategize”; “Provide feedback, advice or analysis”; and “Improve or reframe the proposal.” All of these were

within the range of Very to Extremely effective. The remainder of the sub-categories were rated Moderately to Very effective; none of the sub-categories were rated Slightly or Not at all effective. See Figure 3 for all ratings; lower values indicate greater effectiveness.

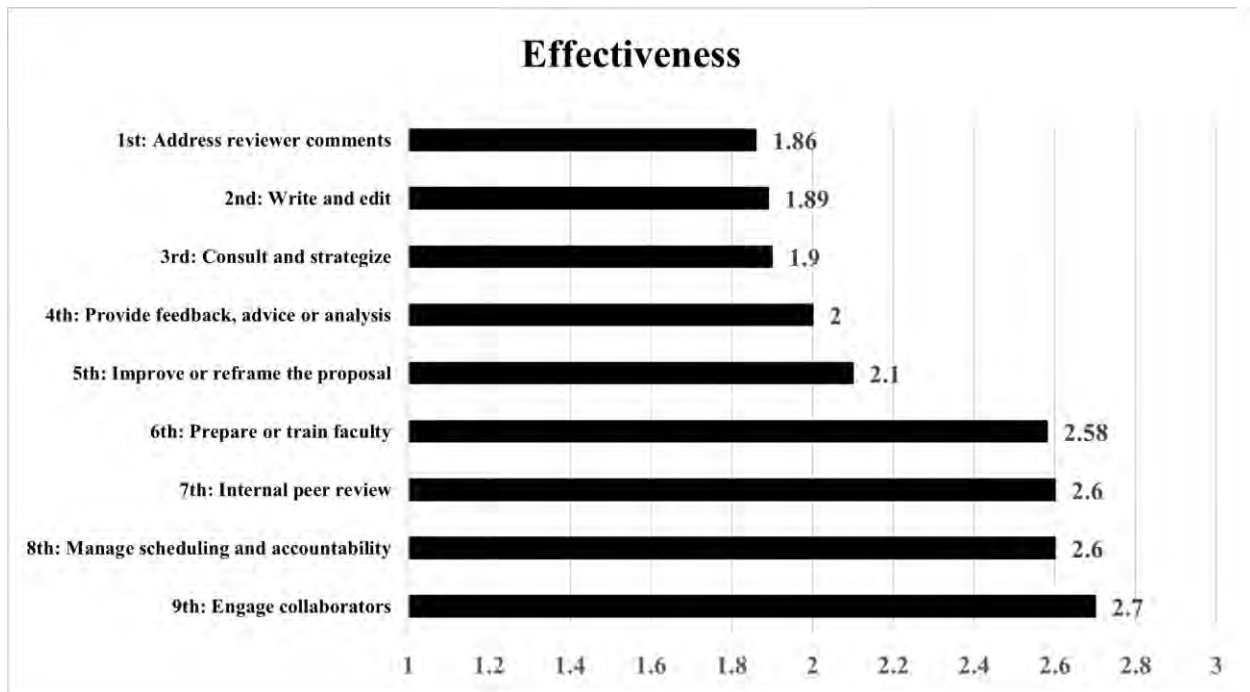


Figure 3. Effectiveness of sub-categories

RQ2. Conditions Governing Resubmission Assistance

Thematic analysis of the open-ended comments revealed two groups of conditions that determine whether resubmission assistance is offered to or

available to faculty and staff writing grant proposals. Conditions are either formal or informal (see Table 5; factors are rank-ordered) and vary from highly objective (e.g., time, sponsor) to highly subjective (e.g., strategic initiatives, financial benefit).

Table 5. Formal and Informal Conditions Governing Resubmission Assistance

Formal	Informal
1. Time	1. Willingness of PI to Communicate
2a. Leadership Priorities	2. Bandwidth
2b. Department	3a. Benefit
3. Sponsor	3b. Competitiveness
4a. Career Stage	3c. Sponsor Feedback
4b. Topic	
4c. Value	

Note: Equally common conditions are noted with “a,” “b”, or “c” as needed.

RQ3. Standard Elements of Resubmission Assistance

Using the rankings from the importance, frequency, and effectiveness categories, an average score was created. The top four responses across categories were: “Consult

and strategize”; “Provide feedback, advice, and analysis”; “Address reviewer comments”; and “Write and edit.” See Table 6 for a full list of categories and composite scores.

Table 6. Standard Elements of Resubmission Assistance

Sub-category	Importance	Frequency	Effectiveness	Average
1. Consult & Strategize	1	2	3	2
2. Provide Feedback, Advice, or Analysis	2	1	4	2.3
3. Address Reviewer Comments	3	6	1	3.3
4. Write & Edit	5	3	2	3.3
5. Improve or Reframe the Proposal	4	4	5	4.3
6. Prepare or Train Faculty	6	7	6	6.3
7. Manage Scheduling & Accountability	9	5	8	7.3
8. Engage Collaborators	7	8	9	8
9. Internal Peer Review	8	9	7	8

RQ4. Similarities and Differences of Resubmission Assistance across Institution Types

The sample size of the study made it difficult to infer similarities and differences across all institution types. In addition, inferences were likely to be inaccurate due to sample size. Limited analyses were deemed appropriate by the researchers.

The five most common disciplines supported by RD teams at participating institutions were: Science (8), Engineering (6), Social Sciences (5), Education (4), and Medical & Health (4). The six most common sponsors for submitted proposals (initial and resubmission) were: National Science Foundation (23), National Institutes of Health (22), Department of Defense (12),

U.S. Department of Agriculture (9), U.S. Department of Energy (8), and U.S. Department of Education (5). Office sizes at each organization ranged from one to 15 full-time equivalent (FTE); the average RD office FTE was 4.4. For those offices that offered resubmission assistance, the number of employees dedicated to resubmission assistance ranged from one to six FTE and the average FTE for resubmission assistance was 2.4. The average percentage of FTE with responsibility for resubmission assistance was 71%.

LIMITATIONS AND IMPLICATIONS

An obvious limitation to this study is sample size; however, it was designed as an

exploratory study to survey the landscape of the types of resubmission assistance RD support staff offer investigators. Second, the follow-up survey was designed as an anonymous survey to allow participants to respond frankly and without reservation. Future research should collect demographic information to afford analysis and comparison according to institution type.

CONCLUSIONS

The results of this study provide a thorough initial assessment of the commonality, importance, frequency, and effectiveness of resubmission assistance among a small group of institutions and organizations engaged in RD activities.

Further research is needed to draw valid conclusions about the similarity of services, importance, frequency, effectiveness, etc. However, the authors are committed to exploring this further and will complete a brief review of the fourth survey question: *What are some concrete descriptions of your services?*

Additional research should be conducted with a larger sample size to provide the opportunity to conduct a more robust analysis, as well as tie resubmission assistance activity to success rates for an analysis of return on investment of resubmission assistance activities. This study has opened the door to an intriguing, and possibly underutilized, area of support within RD.

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ABOUT THE AUTHORS

Sarah Polasky, Ph.D., is the Director of the Strategic Proposal Development Service in the Division of Research, Innovation & Impact at the University of Missouri – Columbia. She has worked in research and research development for more than 15 years. She has experience leading research development and research advancement teams and working on a variety of local, state, and federally funded research and evaluation projects. Sarah is a member of the National Organization of Research Development Professionals, the National Council of University Research Administrators, and the Arizona Educational Research Organization. She holds an MA and a Ph.D. from Arizona State University.

Jeannie Wilson is an independent grants consultant and editor. She previously supported the research community at Arizona State University in roles as a proposal editor, grant writer, and proposal manager, at both the college and university levels. She holds an MEd from Northern Arizona University.

JulieAnna Carsen is the Assistant Director of Research Development for the Mary Lou Fulton Teachers College at Arizona State University and the principal owner of JVG Synergy, LLC, a business development consultancy. During the past 20 years, she has overseen mass communications programming in international contexts, tribal government administration, and research development support in academic settings. JulieAnna is a member of the National Organization of Research Development Professionals, the National Council of University Research Administrators, and the Grant Professionals Association. She is a veteran of the U.S. Air Force and Army Special Operations Command, is Grant Professional Certified (GPC), and is completing an MS at Arizona State University.

Lillian Stover is a secondary education major and a student worker for the Mary Lou Fulton Teachers College at Arizona State University. She served as a research assistant for this project. Lilly is currently in her sixth academic term and will graduate in May 2023 as a secondary education history and environmental education teacher.

Ann Nielsen, Ph.D., is the Director of the Office of Global Engagement in the Mary Lou Fulton Teachers College at Arizona State University. Dr. Nielsen has worked in K–12 education for the past 22 years and in higher education for the past seven years, focusing on comparative and international education research and programs. Her interests in education and research have focused upon teacher professional subjectivities, teacher leadership, and school leadership using visual and qualitative methodologies. Ann is the past president of the Arizona Educational Research Organization and is a member of the Comparative and International Education Society. She holds an MA and Ed.D. from Arizona State University.

Shelby Cowley is studying elementary education at Arizona State University. She served as a research aide for this project. She is finishing the final semester of her undergraduate degree, will graduate in May 2022 with a degree in elementary education with a concentration in multilingual learners, and is teaching in a multi-age classroom in Phoenix, Arizona.

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