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A Proposed Framework for Peer Reviews

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In the past five years of editing a peer reviewed journal, the authors have taken note of several concerns associated with peer reviews completed by unpaid, volunteer reviewers who generously shared their time to do this work. The primary challenges we experienced were reviewer disparity and unhelpful reviews. As editorial board members of a new journal, we began to notice that recommendations from reviewers frequently did not agree. In fact, in the past five years, reviewer recommendations only agreed 42.75% (65 of 152 manuscripts) of the time. The majority of disagreements (87.4% or 76 of 87 manuscripts) were only off by one level (i.e., accept vs. minor revisions required; minor revisions vs. major revisions required, major revisions required vs. reject). However, almost 13% (11 of 87 manuscripts) of recommendations showed significant disparity between the recommendations of peer reviewers (i.e., accept with minor revisions vs. reject).

The second challenge that we observed was that some reviews were more helpful to the authors in shaping their revisions and improving the quality of the manuscript. We noted that some reviews were highly detailed, gave many specific suggestions for how to improve the paper, and reflected a thoughtful review process, with the reviewer considering potential explanations for observed phenomena and adding insight into the scenario described in the manuscript. However, we also saw that some reviews were cursory in nature and vague in their input to the authors. They did not reflect a deep consideration of the paper's content in crafting their review. Positive and negative comments were often so broadly stated that they were not valuable to the editorial board in making a decision about the status of the manuscript, nor were they helpful to the authors for improving their manuscript.

Initially, we saw the two issues of reviewer disparity and unhelpful reviews as being unrelated, but time and experience taught us that they were in fact very much related. It appeared that the disparity of reviewer recommendations was directly related to the quality of the reviews that had been completed. When examining reviews associated with the widest disparities between reviewers, which occurred almost 13% of the time in our journal, we noted that in most cases, one of the reviews reflected the careful and detailed review process and one reflected the cursory review with vague responses. Having started this journal, we knew that our peers who were reviewing for us were doing so because they cared about the content of the manuscript and eventually about the journal. We also recognized that there were few resources provided to doctoral students and new faculty regarding the peer review process (Foster & Scott, 2014; McKarney, 2001; Xu et al., 2015). As a result, we attempted to develop an informal peer mentoring process and see if it would improve the quality of the peer reviews for novice reviewers.

As a result of this experience and feeling perplexed about how to improve the consistency of effective peer reviews for scholarship of teaching and learning (SoTL) manuscripts, we began to search for literature regarding the peer review process that could inform us of how to create a better framework, one that we might use in SoTL studies going forward.

Peer Review Literature

Research from the fields of organizational psychology and education has suggested that effective feedback (a) “identifies what might be deficient or lacking;” (b) “provides direction for how to correct or improve deficiencies;” and (c) “encourages and praises positive aspects” (Stephens et al., 2017, p. 60). Doctoral and postdoctoral students preparing for faculty roles were found to prefer feedback that was directive (providing detailed new information or direction) and supportive

(encouraging or affirming) was preferred over feedback that simply critical (identifying flaws or expressing skepticism) and nondirective (probing rather useful questions) (Stephens et al., 2017).

In considering the quality of peer reviews, we looked to the literature across disciplines. As there is little content specific to communication sciences and disorders (CSD) and the peer review process, we casted our net widely and found significant contributions to the literature from medicine and STEM-related fields, such as chemistry and physics. The literature suggested that the finding of reviewer disagreements was not unique to our experience. A study of peer reviewer comments and recommendations in the field of orthopedic medicine found that an average of only 11% of the reviewers for the same journal provided comments of overlapping content (Iantorno et al., 2016). In another study of a clinical science journal, found that only 36.2% of reviewers were in agreement for recommendations (Scharschmidt et al., 1994).

Seeing confirmation that reviewer disparity was not unique to CSD or our journal, we began to consider how to analyze the peer reviews. The working group drew from the work of authors who were repeatedly referenced in the literature (Bedeian, 2003; Bornmann et al., 2008; Kumar et al., 2011; Mendonca & Johnson, 1994). Bornmann and his colleagues (2008) conducted a systematic review of criteria for accepting and rejecting manuscripts submitted to journals in the fields of social and behavioral sciences, as well as public health. They used the criteria from peer reviewers' comments to create a category system which was inductively reduced to nine areas of consideration: "(a) relevance of contribution, (b) writing/presentation, (c) design/conception, (d) method/statistics, (e) discussion of results, (f) reference to the literature and documentation, (g) theory, (h) author's reputation/institutional affiliation, and (i) ethics" (Bornmann et al., 2008, p. 419).

Mendonca and Johnson (1994) analyzed reviewers' comments that were exchanged between peers in an English as a second language advanced writing course. They characterized the comments as types of negotiations, in part based on the "Vygotskian notion that language use...is a deeply rooted social act" (p. 746) and that the process of giving and receiving feedback facilitates the construction of meaning within the review and revision process. The types of negotiations identified included: "(a) request for explanations, (b) comprehension check, (c) unclear point, (d) opinion, (e) content, (f) restatement, (g) suggestion, and (h) grammar correction" (p. 752). Another study applied this framework to reviewer comments for journal manuscripts from STEM fields, such as sciences and engineering (Kumar et al., 2011). The result of the data analysis from this study led to a modification of the Mendonca and Johnson's negotiation types, which they referred to as "attributes". The types of attributes from this study are listed in Table 1.

Table 1*Attributes of peer review comments*

Attribute	Focus of Attribute	Examples
Quality	Technical information Novelty Synthesis Evaluation Application	Figures, tables Study presents new information Results not justified by data Issues related to explanations of data interpretation Clearly stated application of findings to field
Suggestions	Recommendations Contents Opinions	References, sentence revision, figures Literature review adequacy Alignment of headings with content
Explanation	Misunderstood	Clarity of content to reader Accuracy Terminology
Grammar	--	Grammatical, sentence structure, and format
Restatement	Comprehension	Repeat concepts to demonstrate understanding
Structure	--	Organization of article Paragraph flow

Note: Adapted from Kumar et al. (2011)

As a journal editor in the field of management, Bedeian (2003) expressed concern about reviews which demonstrate significant reviewer bias and undue negativity. Noting the “criticism bias in the review process,” (p. 336) he expressed concern regarding the tendency to “stress limiting aspects of manuscripts,” (p. 336) which Van Lange (1999) had first described as the “SLAM Effect” (p. 2550). The SLAM Effect describes reviewers’ inclination to focus on negative and critical comments in a variety of the sciences. Consistent with Mendonca and Johnson (1994), Bedeian (2004) expanded the influence of social dynamics in the peer review process, indicating that “all knowledge-claims are socially constructed” (p. 199) and thus challenging the idea that knowledge is objective. He termed this a “sociology-of-knowledge perspective” (p. 201), in which the review process becomes a transactional one between the reader and the text’s authors. Bedeian (2004) advocated for the peer review process to be seen as a “social act” (p. 201). Recommendations for reviewers arising from this viewpoint include the notion that feedback be more dialogic in nature, and thus include suggestions for changes, rather than stating criticisms alone. Reviewers should reject the urge to harshly criticize and instead provide balanced comments. This approach may increase the authors’ willingness to make changes and engage in further revision and discussion with the reviewer. The review process benefits from not presuming inferiority of the author but rather seeing it as an opportunity to have a collegial and constructive exchange of ideas.

Developing a Framework for Peer Review

The first author worked with a group of four speech-language pathology graduate students to develop a framework for structuring peer reviews based on the above literature. The graduate students had all completed their first year of a two-year program and volunteered to work with the faculty member to develop a new framework that could be useful to peer reviewers for structuring their feedback to authors. Prior to beginning the analysis and development process, the students were given a series of readings focused on qualitative coding methodology (Bogden & Biklen, 2007; Creswell, 2014). To aid in developing a framework for SoTL manuscripts, peer reviews were selected by members of the journal's editorial board that were identified as exemplars of reviews that were facilitative of manuscript improvement or reviews were unhelpful to authors in revisions of their manuscript. These exemplar reviews, which were deidentified before use, were used in a constant comparison process to consider if the developing framework sufficiently captured the characteristics and qualities of the reviews (Glaser & Strauss, 1967). Peer reviews were analyzed for the content that was addressed and the manner in which the feedback was stated. The qualitative analysis of the peer reviews proceeded much like traditional qualitative data coding: individual reviews were analyzed for a sense of the reviewer's tone and language choice to convey their feedback, as well as the content that was addressed. Following the review of each individual set of codes, codes for reviews were examined for overlap, intersections, and the emergence of themes (Creswell, 2014; Denzin & Lincoln, 2003). Over a period of several months of discussion and analyzing the exemplar peer reviews, it emerged that our own qualitative analysis of peer reviewers' comments fit into a framework familiar to one used by speech-language pathologists: the overlapping domains of language - *form*, *content*, and *use* (Bloom & Lahey, 1978; Lahey, 1988). The *form* of language consists of phonology or the rules for combining phonemes or speech sounds; morphology or the smallest units of meaning within words (e.g., root words, prefixes, suffixes, etc.); and syntax or rules regarding word order or sentence structure (e.g., grammatical rules of language). The *content* of language, also referred to as semantics, is the meaning of words and word combinations (e.g., vocabulary). The final domain of language is *use* or pragmatics, which are the verbal and nonverbal rules for using language in social situations. This is one's knowledge of how to vary one's language (what, how and when) based on the situation (place, communication partners, etc.). Utilizing this familiar framework, we looked to the literature to consider how, if at all, the domains of language and models of peer review feedback might be related.

In comparing our domains of language for peer review (DoLPR) framework to the literature, we saw emerging intersections between the aspects of language that we traditionally consider *form*, *content*, and *use*, and the areas that each of the researchers had focused on in examining the critical aspects of peer review. It is important to note that, as can be seen in Table 2, while each model from the literature did not necessarily have items that corresponded one-to-one to each domain of language, when taken together, there were connections between each domain of language and the key items in the previous models. We continued to expand the model through an inductive process to compare the nature of the language in the exemplars to the characteristics described in the literature. In this manner, we created a new framework grounded in both the peer review literature and the form, content, and use model.

Table 2*Crosswalk of DoLPR and literature-based models*

Domains of Language	Mendonca & Johnson (1994); Kumar et al. (2011)	Bornmann et al. (2008)	Bedeian (2003)
Form	<ul style="list-style-type: none"> • Grammar (journal format, edits text, symbols) • Structure (organization) • Suggestions (wording) 	<ul style="list-style-type: none"> • Wording • Presentation 	--
Content	<ul style="list-style-type: none"> • Quality (technical qual, novelty, synthesis, evaluation, application) 	<ul style="list-style-type: none"> • Design conception • Theory • Relevance • Methods • Discuss results • Lit review 	& --
Use	<ul style="list-style-type: none"> • Restatements (comprehension or knowledge checks) • Explanations (misunderstood, unclear content or concepts) • Suggestions (opinions, recommendations) 	--	<ul style="list-style-type: none"> • “Social act”, “Social process” • Useful feedback Dialogic process/tone • Recognize subjective nature of knowledge • Avoid: <ul style="list-style-type: none"> ○ Offensive comments ○ Focus on “stress limiting aspects of manuscript” ○ “Criticism bias” (find reason to reject; show reviewer diligence)

Following the development of the DoLPR framework, the working group returned to analyzing previously-completed peer reviews and determined that reviews which addressed all three areas – content, form, and use – were the most in-depth and well-balanced reviews. The reviews that addressed only one area – typically either form or content – provided less depth of thinking and were less specific or well-rounded in providing feedback that was likely to be useful to an author

in improving their manuscript. Peer reviews that addressed only form looked as though the reviewer had simply completed a copy edit of the manuscript. In further analyzing the most detailed peer reviews and considering our DoLPR framework, we developed the following codes (See Table 3).

Table 3

DoLPR Framework codes and examples

Area	Code	Examples/Details
Content		
C1	Quality & Impact	Research question adds to the field and is meaningful Overall impression of manuscript (positive/negative) Transparency Impact of work Replicability Author bias Summary of value
C2	Elements	Components present/absent Literature cited Rationale Data analysis Participants Study design Limitations Evidence
C3	Interpretations	Cohesiveness (across manuscript) Interpretations Thinking: Simplicity v complexity Support, justification Contextualization Logic Validity
Form		
F1	Format	APA, references, tables, figures, etc. General errors Reformat
F2	Organization	Information corresponds to sections Succinct and concise Relevance of information Able to understand

F3	Wording Writing Style	and	Word choice Tone Grammar Sentence structure Depth and details Connections Consistency
Use			
U1	Feedback Feasibility		Specific Feasible to implement
U2	Depth of Reviewer Engagement		Constructive & critical thinking <ul style="list-style-type: none"> • Offers insightful comments and suggestions that exhibit critical thinking • Reviewer searched for further information • Offers support/evidence for their claims • What needs to happen
U3	Tone of Reviewer Comments		Balanced (negative/positive) Collegial Kind (avoids condescension, not personal) Dialogic in nature <ul style="list-style-type: none"> • Asks questions • Makes suggestions • States suggestions • Offers alternatives • Uses first person/personalize

As a result of this intensive data analysis process, which began with the qualitative analysis of the exemplar peer reviews and continued through to the comparisons to the literature-based models, and in the absence of readily available peer review education and support (Foster & Scott, 2014; McKarney, 2001; Xu et al., 2016), we believe that following the DoLPR framework in crafting a peer review of a journal article can be useful in guiding the reviewer to address a broad range of areas within the article. Furthermore, we feel that it is critically important to attend to the dialogic and pragmatic aspects of our language as we provide the peer review feedback to avoid offending, “SLAM-ing,” and alienating our colleagues as we facilitate their growth and improvement as they work toward publication.

Applying the DoLPR Framework to the Peer Review Process

In sharing the DoLPR Framework here, it is our intention to offer it as a guide for peer reviewers to follow. Based on the development and implementation of our framework over the past year with a variety of users, including graduate students in CSD and the authors, we suggest that its use will

result in an in-depth, considered, and constructive review that will be useful to both editors and authors alike. We also propose that this framework will be useful to reviewers across all disciplines, not just CSD reviewers or reviewers of SoTL work. The challenge may be in completing the reviewer feedback form from any given journal while addressing each aspect of this framework, but we believe that it is feasible.

While it is possible that different reviewers will take slightly different approaches to the review process, we will outline the use of the framework here. We would recommend starting the peer review process by reading the entire manuscript prior to making any comments, suggestions and/or recommendations. It may be useful to get a sense of the whole manuscript, considering specific feedback. Once the reader has an appreciation of the authors' work, it is time to begin analyzing it in more detail.

Content. As you read through the paper for a second time, begin making notes regarding the content. Consider first the overall quality and impact (C1) of the manuscript. Does the work have the potential to elevate the readers' knowledge of an important topic? Is there inherent value in sharing the content with the journal's audience? Some reviewers will present these impressions in a summary of the research question or manuscript purpose as they understand it, and then draw conclusions regarding the overall importance of the paper. The next step is to consider the individual elements of the manuscript (C2). Examine, for example, the research question(s), rationale for the study, methodology, results, and discussion. Are the elements that are relevant for the paper present and addressed? Remember as a reviewer, particularly for SoTL journals, that not all elements will be expected. Reflection papers and manuscripts about scholarly teaching may not have research questions or study designs. Absence of an element when it is not relevant should not be taken as a flaw. After reviewing all of these elements, consider if the authors make justifiable and appropriate interpretations from their research or their writing (C3). Does the manuscript make claims that are logical and substantiated? Is the thinking sound, and does it take the context described into account when drawing conclusions?

Format. Once the content has been assessed, the reviewer can provide general feedback regarding the form of the manuscript, pointing out global issues within the domain of form. Remember that if the manuscript is accepted for publication, it will go through the copy-editing process. While your job is not necessarily to complete a line-by-line edit of the paper, you may note issues that arise with the manuscript's form during your careful reading. It can be helpful to the authors to share this feedback, particularly as it may lighten their workload in the final stages of copy editing and also increase the likelihood of the manuscript being accepted. Note if you have any concerns regarding the compliance of the manuscript to the style guide used by the journal (F1). Be sure that you are familiar with the most current version of the style guide before addressing items such as table formatting, figures, and references. If you observe issues with the organization (F2) of the manuscript that could improve the effectiveness of the writing, be sure to let the authors know. Share any information that appears to be redundant or extraneous. Note when clarification of paragraphs or concepts would benefit the overall quality of the manuscript. Finally, consider the wording and/or writing style (F3) of the manuscript. Is the tone of the writing appropriate for the journal in which it will appear? Are there grammatical or sentence errors that need to be corrected in order to improve the quality of the work?

Use. The challenging aspect of this third domain of use is that it may not represent separate or and unique comments by the reviewer. Like pragmatics, from the domain of language model, use in

this framework is more about the nature of the comments and the way that it is written rather than the specific content of comment itself. Make sure that the feedback provided is feasible (U1) for the authors to implement. For example, it is very valuable to ask for more detail regarding how the analysis was completed, but it is not feasible to ask the authors to report on data that clearly wasn't collected at the time of the study. Consider the depth of your thinking about the manuscript you have just read (U2). Did you read and think, "this sounds good," or did you ask yourself how the content fits with your understanding of the issues or topic? Can you offer support or contradictory evidence for the claims made by the authors? Have you thought critically about the implications of the manuscript? The final step we suggest is to consider the tone of your feedback and comments (U3). As noted by Bedeian (2003), it is easy to assume superiority to the authors and to take an overtly critical stance of their work. However, consider how you would feel reading the comments that you have written. Do they feel collegial, or do they feel condescending? Have you asked questions of the authors to give them ideas to consider, or have you simply stated errors and inaccuracies that may feel negative? Finally, to honor the transactional, dialogic, and collegial nature of the peer review process, we urge you to write your reviews in the first person. Let the authors know that it is a caring person who gave careful consideration to their work, whether you find it acceptable or not. Criticism is almost always more palatable when shared with kindness.

Finally, prior to submitting the peer review, re-examine all of the feedback that you are providing to the authors. Have you provided a thorough review of the manuscript that examined all of the domains of language? Is the feedback constructive and useful? Would you find this feedback specific and helpful enough to revise and improve the manuscript? Will this review assist the editor in making a decision regarding the publication status of this manuscript? Remember that the goal of the peer review process is to facilitate growth in our colleagues' writing and to disseminate research that will continue to enable our disciplines to grow. It is important to note that we do not believe that every review will facilitate the improvements of a manuscript to the point that it will be accepted. However, we are mindful that even work which is unacceptable to the reviewer or the journal represents significant time and effort on the part of the authors. They deserve to receive your careful, detailed feedback in a collegial manner so that they can learn from the process and hopefully make improvements the next time they conduct research and/or write a manuscript.

Next Steps

The DoLPR framework that we present here was developed through an inductive comparison process and has yet to be tested for validity and reliability. However, we think that in comparing it to both the seminal peer review literature (Bedeian, 2003; Bornmann et al., 2008; Kumar et al., 2011; Mendonca & Johnson, 1994) and the domains of language literature (Bloom & Lahey, 1978; Lahey, 1988), it demonstrates a clear intersection of concepts. Further, it supports the development of specific, directive feedback that avoids vagueness and is balanced, thoughtful, and supportive (Stephens, 2017; Wilson & Emm, 2010).

We propose that this framework needs to be further studied, and we share it here in the hopes that colleagues will consider investigating the use of the framework to establish its value in a variety of settings. We invite researchers to apply this framework to shape feedback that can help authors improve research manuscripts for publication, structure comments for mentoring purposes, and be used by faculty to support students in improving their writing in the higher education setting.

Disclosures

Sarah M. Ginsberg, Ed.D., CCC-SLP is the co-founder, former Editor, and a member of the Board of Directors of *Teaching and Learning in Communication Sciences and Disorders* (TLCSD).

Colleen F. Visconti, Ph.D., CCC-SLP is the co-founder, Editor and member of the Board of Directors of *Teaching and Learning in Communication Sciences and Disorders* (TLCSD).

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