EDITOR'S COMMENTS

Developing Virtuous Reviewers

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MIS Quarterly expects virtuous reviewing as I described in my editorial "Writing a Virtuous Review" (Rai 2016). Former *MISQ* EICs have discussed related aspects of reviewing. Carol Saunders (2005) differentiated between two types of reviewer mindsets: *diamond cutters*, who seek to focus on the gem-in-the rough and help authors to develop these ideas, and *gatekeepers*, who seek to ensure that problematic ideas do not flow forward. Detmar Straub (2008) eloquently discussed why a sole gatekeeper mentality is likely to deny a paper a fair hearing and enhance Type II reviewing errors where good papers are rejected. These and other editorials describe a vocabulary and espoused practices for virtuous reviewing, and can be accessed on the *MISQ* site at https://misq.org/reviews/.

How do we develop virtuous reviewers? This development requires learning how to *create* a virtuous review for a paper. Such learning is complex. While reading editorials and listening to panel discussions on reviewing can be useful to *understand* the concept and guidelines of virtuous reviewing, learning how to *create* virtuous reviews requires deeper learning. Such learning involves applying the guidelines to develop reviews, receiving feedback from mentors, comparing reviews with those developed by others, and conversations with peers working to achieve the same learning objective.

To actively promote the development of virtuous reviewers for *MISQ* and more broadly for the IS community, *MISQ* launched its Reviewer Development Workshops in 2016.

In this editorial, I discuss the design of the workshop from a cognitive process perspective and then proceed to describe the workshop setup and activities from this perspective.

Workshop Design from a Cognitive Process Perspective

The objective of the workshop is to coach individuals who have reviewed, or are interested in reviewing, for *MISQ* on how to develop a virtuous review.

To achieve this objective, participants engage in a series of activities prior to and at the workshop. The activities represent a combination of reading, experiential, observational, and conversational approaches for learning.

The progression of the workshop's activities, pre-workshop to conclusion, corresponds to the hierarchy of cognitive process categories for meaningful learning that are identified in the revised taxonomy of educational objectives (Krathwohl 2002)[1] (see Table 1). As per the taxonomy, the cognitive processes can be categorized into the cognitive tasks that individuals need to accomplish (and therefore expressed as verbs): *remember, understand, apply, analyze, evaluate*, and *create*. Although the progression through these categories is not a strict hierarchy at the level of the underlying activities (e.g., a specific activity in the *understand* category may be more complex than a specific activity in the *apply* category), the overall cognitive complexity of the categories can be construed to progress from low complexity to high complexity.

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[1]The taxonomy has two dimensions: knowledge and cognitive process. I focus on the cognitive process dimension as it provides a meaningful perspective to discuss the workshop's activities.

Setting Up the Workshop

The setup of the workshop is oriented to understand the applicant pool, assign pre-workshop activities to the selected participants, and configure roundtables of participants and mentors. Here is a quick overview of the setup process which sets the stage to discuss the progression of activities and their relation to the cognitive processes:

Applying for the Workshop

In response to the workshop announcement on AISWorld and other *MISQ* social media channels (e.g., Facebook, Twitter, WeChat), applications to the workshop complete a short application by providing the following information:

- *Career stage*: doctoral student (coursework stage); doctoral student (dissertation stage), assistant/associate/full professor
- *Perspectives employed*: behavioral, organizational, design, economics, other
- *Methods used*: analytical modeling, econometrics, computational data science, psychometrics, qualitative, other
- *Research interests*: one or two sentence description of research interests
- *Reviewing experience*: journals and conferences reviewed for

Assigning Papers to Participants

Given the information provided in the applications, I assign a paper to a participant that corresponds to their interests and expertise and that the participant has to review prior to the workshop. As the field has progressed to employ a rich diversity of perspectives and methods, we use a diversity of first-round *MISQ* submissions in the workshops, thanks to the authors who have shared their papers for the workshop! For example, for the workshop in Munich we have assigned 9 different types of papers to 55 participants. These papers differ not only in topics but also in the perspectives and methods as well as the types of contributions.

Recruiting Mentors

An important aspect of setting up the workshop is recruiting Senior Editors (SEs) and Associate Editors (AEs) to serve as mentors for the workshop. The number of SEs and AEs required to serve as mentors for the workshop corresponds to the number of roundtables and the mix of papers across the roundtables, which depends on the applicant pool for the workshop.

Thanks to the tremendous commitment from *MISQ's* SEs and AEs to develop the peer review resources for *MISQ* and the IS community, the workshops have enjoyed extraordinary support from them!

Configuring Roundtables

The roundtables are configured by papers that are being reviewed. We assign approximate five or six participants and two mentors to a roundtable for a paper. Given the pool of applicants, some papers may be programmed at more than one roundtable.

The roundtables are also configured to include participant diversity in terms of relevant expertise (e.g., topics, theories, methods) and career stage.

In some instances, the authors of the papers and the editors that handled the paper have served as mentors at a roundtable.

Pre-Workshop Activities for Participants

The pre-workshop activities focus on the initial stages of the cognitive process categories: *remember*, *understand*, and *apply*.

Applicants selected for the workshop are provided the editorial "Writing a Virtuous Review." They are asked to read the editorial and review a first-round *MISQ* submission that is assigned to them. They are requested to submit their reviews two to three weeks before the workshop.

Reviews of the paper received from participants assigned to a roundtable are shared with the participants and mentors for that roundtable.

In preparation of the workshop, participants are requested to be ready to present their review briefly at their roundtables and also to have read the reviews of other participants.

Although reading the editorial (or any resource on how to review) positions participants to *recognize* and *recall* the principles of virtuous reviewing, it is the immersive process of writing a review for a paper that elevates their learning to *apply* the principles in a specific reviewing context. Reading the reviews of peers can develop understanding by *exemplifying* how the principles of virtuous reviewing may have been applied or violated in the context of the same reviewing exercise. The process of *comparing* reviews provides an opportunity to see how participants developed their reviews differently and can generate questions to be probed at the workshop.

The types of learning achieved from the pre-workshop activities is reflected in feedback surveys as exemplified in these comments by participants on the aspects of the workshop that they found to be most valuable:

- *Reading the editorial was a very effective preparation for the workshop and for writing the review*
- *Reading the paper and writing our own reviews before the workshop*
- *The access to other reviewers' comments allowed me to learn from others*
- *Seeing how different people approach papers legitimately from very different angles*

Workshop Activities

The in-person workshop activities are organized in three phases designed to reinforce and build on the learning from the pre-workshop activities and progress to the higher complexity cognitive processes.

Phase 1: Workshop-Wide Lead-In Discussion

The lead-in discussion is highly interactive and is designed to promote greater understanding of how to review effectively. Specifically, the lead-in discussion involves two parts:

- *Understanding the reviewer role in the context of other roles and the overall editorial process*: The workshop starts with an overview of the editorial process from submission by authors to decisions by editors. Although the process is described on the *MISQ* site, the overview provides an opportunity for participants to understand from the EIC, the SEs, and the AEs as to how they enact their respective roles, how the reviewer role relates to the editorial process, and why and how virtuous reviewing creates value for editors, authors, and other reviewers.

- *Experience-sharing on the virtuous reviewing guidelines*: Typically, I briefly introduce a guideline and request the SE/AE mentors to illuminate the guideline through their experiences as reviewers, authors, and editors. Vivid real-life stories make for memorable lessons! The storytelling from the real-life experiences of the mentors has proven to be very valuable to *exemplify*, *interpret*, and *explain* the guide-lines, and cultivate overall understanding.

Phase 2: Roundtable Discussion of Participants' Reviews

While the roundtable discussions reinforce the earlier phases of the cognitive process (remember, understand, apply), the primary focus is on the later phases of the hierarchy (*analyze*, *evaluate*, *create*).

The discussions are scholarly conversations among the five or six participants and two mentors at each table on the reviews that were developed by the participants. Each participant briefly overviews their review for the paper, which is followed by a discussion with mentors and participants on the review. The discussion is highly interactive, ranging from analyzing a review to critiquing a review to comparing the reviews of participants to envisioning how a review may be reworked to create greater value.

The learning attained from the roundtables is echoed in the following illustrative comments by participants on what they found to be most useful about the workshop:

- *The roundtable discussion allowed me to get guidance from editors in terms of the strength and weaknesses of my review. The discussion process provided me with the golden opportunity to learn as a reviewer, and author too.*

- *Comparison and discussion of reviews.*
- *To hear from the authors and the SE on the paper was very informative.*
- *Direct feedback from the editors in terms of how my review report would be perceived by them.*
- *Understanding the process from an AE/SE perspective.*
- *Roundtable discussions, where the AEs explain why including a specific element in a review is either constructive or less so.*
- *Think about how to present the review that it is not only most useful for the authors but also for the editors.*

Phase 3: Roundtable Discussion on Lineage of the Paper and the Actual Reviews

In this phase, participants receive the subsequent versions of the paper that they reviewed—that is, the first and subsequent revisions to final version, along with the corresponding review packages and authors' responses to editors and reviewers. The discussion focuses on the quality and constructiveness of the reviews. It also addresses how a review influenced the development of the paper, how a review shaped the editorial guidance and decision in each round, and how a review may have influenced other reviewers in subsequent rounds. By analyzing the linkage between a review (or a specific comment) to the development of a paper, participants learn how to create reviews that are influential. For example, participants may see how a reviewer advocated an idea and offered suggestions for authors to develop the idea.

The learning from this phase of the workshop is highlighted in the following comments by participants on the most effective aspects of the workshop:

- *The opportunity to compare my reviews to actual reviews*
- *Retrospective review of a full review package*
- *Sharing the story of how this piece evolved with the reviews*

Phase 4: Workshop-Wide Wrap-Up Discussion

In this final phase, participants share insights from their respective roundtable discussions with all workshop participants. The sharing is free-flowing. What has been particularly exciting to see is the rich medley of eureka moments that have emerged for the participants that will affect how they approach reviewing.

Spillover Benefit

A culture of virtuous reviewing depends on the mindset and actions not only of reviewers but also of editors. Through engaging with participants and other editors at the workshop, the editors have gained insights on how they can enact their roles more effectively. Sharing of these insights at the *MISQ* editorial board meetings and beyond has contributed to a shared culture of how *MISQ* approaches the peer review process.

The learning for editors is captured in the following comments they made in the post-workshop surveys:

- *As an editor, it helped me to reflect on what I like to see in a review report from a reviewer*
- *Sharing the values of the journal*
- *Discussions to develop a shared understanding*
- *As editors, we learn about the concerns that reviewers have about the review process and how we can address them up front*

Concluding Remarks

We have developed a good understanding about the importance of reviewers approaching their roles with a constructive mindset and the principles of virtuous reviewing. The challenge and the opportunity are conceiving and implementing initiatives to develop virtuous reviewers. While learning how to review effectively is an ongoing process requiring engagement in reviewing, the *MISQ* workshops are an approach to orient and foster participants' cognitive processes to create effective reviews. Given the wide recognition of the critical role of reviewers in shaping the scholarly outputs that appear in our journals, wouldn't it be wonderful for the IS community to lead in creative approaches to develop reviewers that enhance the effectiveness of our editorial processes!

Table 1. Cognitive Processes Addressed By Workshop Activities	
Activities	**Cognitive Processes Addressed**
Pre-Workshop	
Read the editorial "Writing a Virtuous Review"	Understand why and how to review: • Recognizing the roles of reviewers, AEs, and SEs in the editorial process • Recognizing the benefits of reviewing and the effort involved • Interpreting the guidelines for writing a virtuous review
Review a first-round *MISQ* submission	Apply virtuous reviewing guidelines • Executing a review of a first-round *MISQ* submission
Read the reviews of other workshop participants assigned the same paper	Understand how to review • Interpreting and comparing how participants write their reviews
Workshop Activities	
Phase 1: Workshop-Wide Discussion	
Discussion on editorial process	Understand the structure and flow of *MISQ's* editorial process and the reviewer role in relation to the process
Discussion on virtuous reviewing	Understand how to review • Explaining, exemplifying, and interpreting the guidelines through experience-sharing by mentors
Phase 2: Roundtable Discussion of Participants' Reviews	
Discussion on reviews for the paper	Analyze and evaluate participants' reviews with a focus on how to create reviews that are useful to authors and editors • Critiquing reviews of participants • Differentiating between reviews in disposition and usefulness • Generating concrete feedback on how to modify aspects of a review to enhance the review's usefulness for editors and authors
Phase 3: Roundtable Discussion on the Lineage of the Paper and the Actual Reviews	
Discussion of the actual review package of the paper	Analyze and evaluate the actual reviews with a focus on how to create reviews to influence the development of the work • Differentiating between reviews in disposition and usefulness • Attributing how each review informed the editorial decision and the guidance, influenced reviewers in subsequent rounds, and shaped the development of the paper
Phase 4: Workshop-Wide Discussion	
Presentation of key learnings by participants at each roundtable	Create reviews that are useful to authors and editors • Generating insights from each roundtable based on the discussions at the roundtables on how to create reviews that are useful to authors and editors

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