Editorial

So You Want to Be an *MTE* Author? A Tool for Writing Your Next *MTE* Manuscript

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When describing *MTE*, we often hear things like, *"It is a practitioner journal," "It is not like JRME,"* and *"It is more rigorous than MT, MTMS, or TCM journals."* All these things are true but do not quite capture what it is that makes *MTE* a journal dedicated to growing the knowledge base of mathematics teacher educators. What this says is that it is easier to state what *MTE* is not, and much more difficult to provide a clear-cut description of what the journal publishes. *MTE* is a journal attempting to do something that no other journal, not even those in other disciplines, has done. Although it may be convenient to try to understand the journal and the kinds of articles it publishes by comparing it with other journals we are familiar with, these comparisons ultimately fall short of providing the support needed to generate a manuscript that is a good "fit" for *MTE*. In this editorial, we offer a tool that could help prospective authors conceptualize and write manuscripts for this journal.

1. How to Craft a Manuscript That Is a Good "Fit" for *MTE*

One important place to begin the quest of getting published is to consider the journal's history and learn as much as you can about its trajectory, where the journal has been and where it seems to be going. Although *MTE* is still a relatively young journal, it is beginning to find its identity as a journal that invests in supporting authors' and reviewers' capacity to participate in the publication process of the journal and works toward the ultimate goal of developing the field's capacity to grow its knowledge base.

An important tradition for this journal is that each issue includes an editorial that reaches out to the readers, authors, and reviewers of the journal to make more explicit and to help demystify the publication process. Hence, one way to learn about how to write and how to review for this journal is to invest a bit of time reading through past editorials, all of which are offered as free previews. In fact, in the most recent editorial, Bieda (Sept. 2016 issue) presented an overview of the topics relevant to the practice of mathematics teacher education that have been featured in the journal's relatively brief 6-year history.

It is also important to consider that *MTE* was conceived as a joint effort between AMTE and NCTM, and the implications of both organizations' involvement reach far beyond their financial investments. Both organizations are also invested in the conceptual direction for the journal, and both organizations have a rich history of supporting journals that make a difference for both practitioners and scholars. What this means is that *MTE* is also unique in how it is positioned within and across both of these organizations.

From its conception, *MTE*'s founding editors and editorial board recognized the difficulties prospective authors might have in writing manuscripts that fit the aims of the journal. The very first issue (**http://www.nctm.org/Publications/mathematics-teacher-educator/2012/Vol1/Issue1/?ref=1**) was published with each article available as a free preview to provide broad access to the kinds of manuscripts that address the journal's aims. One common feature among the articles is that they clearly situate their work in a problem of practice relevant for mathematics teacher educators. In addition, each of the articles describes a method, tool, or innovation that the authors implemented to address a problem of practice. There are, however, differences in the approaches the authors took to assess the effectiveness of the method, tool, or innovation implemented. Although none of the articles has an explicit "Methods" section, they each involve the collection and analysis of data such as pre/post assessments (e.g., Steele & Hillen, 2012), interviews (e.g., van Zoest & Stockero, 2012), written responses (e.g., Groth, 2012), as well as an assortment of data, such as written work, typical of research traditions like action research (e.g., Fernandes, 2012 and Morris, 2012).

Despite the differences in the research methods used, all articles feature carefully stated claims about what the evidence says regarding the effectiveness of the method, tool, or innovation implemented. Doing this well is possibly the most difficult aspect of writing an article that is a good fit for *MTE*; we routinely see articles rejected by reviewers because the claims could not be substantiated by the evidence provided or were not significant enough to warrant the use of the method, tool or innovation by

other mathematics teacher educators. Margaret (Peg) Smith wrote her second editorial as the founding editor of *MTE* on precisely the issue of linking claims to evidence (**http://www.nctm.org/Publications/mathematics-teacher-educator/2013/Vol1/Issue2/EDITORIAL_-Linking-Claims-and-Evidence/**), and this particular issue continues to challenge prospective authors.

Over time, there have not only been editorials but also webinars and conference sessions (**http://www.nctm.org/uploadedFiles/Publications/mathematics_teacher_educator/MTE%20for%20NCTM%202014.pdf**) that have worked to clarify the review criteria for *MTE* and share insights, from *MTE* authors, about crafting manuscripts that are a good fit for the *MTE* journal. Conference session topics have provided prospective authors with access to formative feedback from senior scholars and have featured authors discussing how the process of "revising and resubmitting" helped them refine their manuscript to better meet the journal's review criteria. We have learned from interacting with prospective authors in these sessions that the uniqueness of *MTE* demands different strategies for producing manuscripts than those you might typically use. In this issue, we offer a writing tool to support you in crafting a manuscript that addresses *MTE*'s unique review criteria.

2. A Tool for Planning, Writing, and Assessing Your Manuscript

Inspired by the recurring question of "does my manuscript fit your journal?" that we frequently address as *MTE* editors, we conceptualized and developed a writing tool or template that could help future *MTE* authors evaluate their manuscripts' fit to this journal. We tested the template within our editorial office and also shared it with prospective authors who were willing to try it and help us refine the tool. We also shared this tool at the 2016 and 2017 *MTE* journal sessions at both the AMTE and the NCTM annual meetings, and we have had various discussions, both formal and informal, with prospective authors who have tested the *MTE* template (see Figure 1). This helped us to better understand how this tool could be used by prospective authors of the journal to assess the potential fit of their manuscripts to the aims of the *MTE* journal.

Notice that each cell of the template corresponds to one of the manuscript review criteria and includes questions that correspond to the journal's review criteria to guide the development of an actual (or imagined) manuscript.

1. The manuscript contains a description of the problem or issue of mathematics teacher education that is addressed; the methods/interventions/tools that were used; the means by which these methods/interventions/tools and their results were studied and documented; and the application of the results to practice (both the authors' practice and that of the larger community).

2. The manuscript provides a connection to the existing knowledge base in mathematics teacher education and is grounded in theory and/or on previously published articles.

3. The manuscript goes beyond simply describing an innovation to providing evidence of the effectiveness of the innovation being described.

4. The manuscript makes explicit the specific new contribution to our knowledge. Findings should be reported with enough warrants so that recommendations for policy and practice can be constructed or justified.

5. The manuscript provides sufficient detail to allow for verification, replication in other contexts, or modification by subsequent authors.

In comparing the cell headings with the prompts (in the form of questions), you will notice that Review Criteria 1 has been split across two cells. The reason for this is because Review Criteria 1 is lengthier and because we have found over our tenure as editors that submitted manuscripts typically have weaknesses in describing their innovation (method/innovation/tool), discussing how their innovation (method/innovation/tool) was assessed, or making convincing claims about the implications for practice rather than falling short across all three aspects of the criteria.

There are at least a few ways to use this template. One way is to take an existing manuscript and attempt to fill in the cells with answers to the questions to figure out the strengths and weaknesses of your manuscript in relation to the journal's criteria. Another way to use the *MTE* template would be to have one or more kind colleagues read your manuscript and fill in the cells based on their read of the manuscript. One could imagine the template could be useful for a writing group where one or more authors is preparing submissions for *MTE*. Yet another possibility would be to imagine what those answers might be prior to drafting the manuscript. Those answers could be translated into text for the manuscript's abstract, an excellent place to start a draft. For additional guidance in drafting abstracts, we highly recommend Wendy Belcher's (2009) practical guide, *Writing Your Journal Article in 12 Weeks*.

Identify shared *MTE* problem	Situating problem in literature
What important problem or issue in the practice of mathematics teacher educators does the manuscript describe?	*To which existing knowledge base in mathematics teacher education does the manuscript connect?* *In which theory and/or on which previously published articles is the manuscript grounded?*
Description and argument for the innovation (solution/intervention/tool)	
What argument does the manuscript make for the innovation that addresses the identified problem? *What details does the manuscript provide to allow for replication or modification of the innovation by subsequent authors?*	
Details of the research on the innovation (solution/intervention/tool)	
What description of how the results of the innovation were studied and documented does the manuscript contain? *What details does the manuscript provide to allow for verification of how the innovation was researched?*	
Provide evidence for claims (and consider limitations)	
Beyond simply describing an innovation, what evidence does the manuscript provide of the effectiveness of the solution/intervention/tool? *What warrants does the manuscript provide so that recommendations for policy and practice can be constructed or justified?*	
New contribution to knowledge and practices of MTEs	
What specific new contribution to our knowledge does the manuscript make explicit? *What discussion does the manuscript contain about how this study can inform or influence the shared problem of MTEs' practice?*	

Figure 1. **The *MTE* Template (see Appendix C for Word version)**

A key feature of the template is that the cells correspond to how the argument should unfold in the manuscript. The template links the review criteria with temporal placement within the manuscript that the original organization of the five review criteria did not. In essence, the manuscript story should unfold in three stages: (1) setting up the central problem of practice that the method/solution/tool attempts to address, including a review of relevant literature speaking to the importance of this problem and any theoretical or conceptual frameworks that have informed the development of the method/solution/tool; (2) describing the method/solution/tool and its use in a teacher education context, describing methods used to determine the effectiveness of the method/solution/tool and the extent to which the implementation of the method/solution/tool was successful as revealed through an analysis of evidence collected before, during, and/or after implementation; (3) making recommendations for MTEs' practice based on the findings and implications for use of the method/solution/tool by other MTEs.

3. Using the *MTE* Template

To illustrate how to use the *MTE* writing tool, we use two of the published articles from this current issue. **Appendixes A–B** show how the template could be filled out while also showcasing how manuscripts that fit the journal would look in relation to the questions/prompts in each of the cells of the template.

We invited two graduate assistants who assist with the journal, José Martinez Hinestroza and Christopher Dubbs, to use the template with two of the accepted manuscripts for this issue. This was, in part, an exercise to test the template (and the validity of our review process); we wanted to make sure that the template could easily be completed from a read of an accepted manuscript. What the use of the template illuminates is that articles with different foci and different kinds of evidence can address the questions raised in the template. We encourage you to read the articles in this issue and critically examine the entries in the template for each article to better understand the essential features of *MTE* manuscripts. We think, especially examining these two articles, that you will come to see that the aims of *MTE* accommodate a wide range of foci and research methods.

We hope this tool inspires you to craft a manuscript for *MTE*! If you have not submitted a manuscript for review to *MTE* before, we strongly encourage you to pick a few articles published in *MTE* that relate to the topic of your work and "read" them by filling in the template. Struggling to answer the questions in one or more boxes as you draft your manuscript does not mean your manuscript is not

a good fit for *MTE*; rather, it may mean that you need to rewrite or reframe the arguments you make in your manuscript to more clearly address the journal's review criteria. We invite you to contact us, sharing an abstract and maybe your draft template, to initiate feedback from the editorial team to help you to craft your manuscript for *MTE*.

We also invite prospective authors to use the *MTE* template as they read this issue. Perhaps try it on the other two articles to get a feel for how this tool could be used to review and prepare manuscripts. We look forward to authors sharing with us how they used the *MTE* template to write their manuscripts and to receiving many more manuscripts that clearly fit the journal's goals and criteria and, thus, make it to publication. We hope this editorial helps settle the question of whether manuscripts fit the journal and that authors can focus their writing on strengthening their claims and the ways in which they frame their work so as to explicitly address and contribute to the practice of mathematics teacher educators.

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Appendix A: Supporting Prospective Teachers' Learning to Revise a High-Level Mathematics Task to Be Culturally Relevant, by Heather R. Gallivan

Identify shared *MTE* problem	Situating problem in literature
"PSTs are not being adequately prepared to teach mathematics for conceptual understanding to racial and ethnic minority students from low-income backgrounds."	Funds of knowledge Culturally relevant mathematics pedagogy High-level mathematics tasks

Description and argument for the innovation (solution/intervention/tool)

Writing culturally relevant and high-level mathematics tasks from scratch is challenging. Therefore, a starting point for PSTs is to learn to revise existing high-level mathematics tasks to make them culturally relevant.

PSTs need to learn about students' funds of knowledge to then adapt tasks that tap into those funds of knowledge.

Three-phase intervention to support PSTs in a middle school mathematics methods course to revise existing high-level mathematics tasks to be culturally relevant:

Phase 1 – Getting to know students

- Introduction to culturally relevant pedagogy in methods course.
- PSTs shadowed and interviewed a student in the field placement for at least five hours. The student was "socio-culturally different from them . . . and perceived as struggling in mathematics." PSTs learned about a student's interests, culture, home and community lives, and mathematical practices in which students engage outside of the school.
- PSTs wrote a reflection about how they could use what they learned about their student to inform their mathematics teaching.

Phase 2 – Revising a task to be culturally relevant

- Introduction of an analytic framework for revising a high-level mathematics task to be culturally relevant in the methods course
- PSTs worked in class revising tasks based on a fake student profile.
- PSTs revised a high-level mathematics task to be culturally relevant for their Phase 1 student.

Phase 3 – Postinterview

Semistructured interview at the end of the semester where PSTs revised their Phase 2 task revision.

Details of the research on the intervention (solution/intervention/tool)

Focus on four of the PSTs during the intervention; reporting on two PSTs in this article.

Data sources and analysis:

- Open coding and analytic induction of PSTs' Phase 1 written report
- Rating of Phase 2 task revision using the analytic framework for revising a high-level mathematics task to be culturally relevant
- Analysis of the postinterview transcripts using the analytic framework to gather evidence that they did or did not improve their revised task during the interview
- Analysis of PSTs' progress in their performance on the projects throughout the semester

Provide evidence for claims (and consider limitations)
Focused on two participants "to highlight the ideal progress that can be made... and where PSTs might have some difficulties" Provided evidence directly from the intervention (Phases 1 and 2 PSTs' written work and Phase 3 transcripts): • Examples from both PSTs' written reports and interviews • Examples related directly to PSTs' attention to students' funds of knowledge, and to characteristics of culturally relevant high-level mathematics tasks • Interpretations of PSTs' progress based on comparisons of PSTs' work and transcripts Describes limitations of the intervention, including lack of time for PSTs to interact more with students, lack of time for PSTs to engage in home visits and community explorations, and lack of mechanisms to check that PSTs continued to know their student after Phase 1
New contribution to knowledge and practices of MTEs
"PSTs can be successful in learning how to revise existing tasks to be more culturally relevant using students' funds of knowledge" with support structures. The analytic framework served as an effective tool to learn about and revise high-level mathematics tasks to be culturally relevant. Includes recommendations for MTE's practice at all school levels: • "The intervention should include more interaction time between PSTs and their students" • "Consider adding a community walk or home visit component to the intervention" • "Particular attention needs to be made to the difference between simply using a context to gain the students' interest and attention and using the mathematical experiences students actually have participating in that context"

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Appendix B: Eliciting and Analyzing Preservice Teachers' Mathematical Noticing, by Julie Amador, Anne Estapa, Zandra de Araujo, Karl Kosko, and Tracy L. Weston

Identify shared *MTE* problem	Situating problem in literature
How to support PSTs' development of mathematical noticing	Professional vision/teacher noticing Mathematical noticing Eliciting and supporting PSTs' noticing in methods courses
Description and argument for the innovation (solution/intervention/tool)	
Before supporting PSTs' noticing within a methods course, it is necessary to assess PSTs' noticing to plan a learning trajectory. However, tools for MTEs to asses PSTs' noticing, and in particular PSTs' mathematical noticing, are underdeveloped. "MTEs need to have a firm understanding of what PSTs are noticing mathematically" and the Teacher Noticing Task is offered as one way for *MTE*s to elicit and analyze PSTs' mathematical noticing. The authors developed a Teacher Noticing Task that had PSTs "record pivotal moments of mathematical thinking and/or learning" in written and animated mediums. The Teacher Noticing Task engages PSTs with a video of a lesson chosen by the MTE in two ways: 1. PSTs generated written record of noticing. Step 1: PSTs watched video and noted *pivotal moments*. Step 2: PSTs reviewed list of pivotal moments and described one in detail. Step 3: PSTs re-watched focal moment and wrote "what they noticed, in as much detail as possible." 2. PSTs generated animated records the pivotal moment with GoAnimate. A description and link to the video chosen for this study and the writing prompts used to elicit PSTs' noticing are both included in the appendixes.	
Details of the research on the innovation (solution/intervention/tool)	
To enable replication or modification, the authors explicitly outline three phases of their research: Phase 1: Design of Teacher Noticing Task Phase 2: Implementing the Teacher Noticing Task The Teacher Noticing Task was completed by PSTs both in and outside of class. Phase 3: Data Analysis The authors "incorporated an embedded mixed methods design in which quantitative data analysis was used as evidence to help support the larger qualitative analysis of the data." Coding: Level 1: *Noticing Subject (Who) and Content (What) Framework* for coding each written response and animation Level 2: *Mathematical Content and Practice Framework* for coding what PSTs noticed The *Noticing Subject (Who) and Content (What)* and *Mathematical Content and Practice* coding frameworks are included in appendixes.	

Provide evidence for claims (and consider limitations)
The authors draw on the noticing as expressed in written and animated mediums of 126 elementary PSTs in mathematics methods courses to understand the mathematical noticing of PSTs within each medium. The authors were the instructors of these PSTs in methods courses at six different institutions. In all six cases, the Teacher Noticing Task was incorporated in existing methods course requirements. The authors reported on "who and what the PSTs noticed as a collective group (n = 126) and as a mathematics methods class (n = 6) in the written and animated mediums and then discuss[ed] the specific mathematical noticing of the PSTs." Differences in who and what was noticed, and in which medium, are quantitatively established to support claims regarding the affordances and limitations of each medium.
New contribution to knowledge and practices of MTEs
The authors established both affordances and limitations of the medium used to support teacher noticing and design noticing tasks. They discuss how the animation medium elicited PSTs' mathematical content noticing: "the animation medium [and its scripted nature] may scaffold PSTs' focus toward specific, connected ideas, more than what occurs when using a written medium." The written medium better elicited and captured PSTs' reasoning and rationale for their mathematical noticing. A task that "includes both written and animated accounts of mathematical noticing" is useful for MTEs when designing tasks to support PSTs' mathematical noticing. Differential foci between the written and animated media "demonstrate that what PSTs write and say may differ from how they operationalize these accounts of noticing in a classroom."

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Appendix C: Template

Identify shared *MTE* problem	Situating problem in literature
What important problem or issue in the practice of mathematics teacher educators does the manuscript describe?	*To which existing knowledge base in mathematics teacher education does the manuscript connect?* *In which theory and/or on which previously published articles is the manuscript grounded?*
Description and argument for the innovation (solution/intervention/tool)	
What argument does the manuscript make for the innovation that addresses the identified problem? *What details does the manuscript provide to allow for replication or modification of the innovation by subsequent authors?*	
Details of the research on the innovation (solution/intervention/tool)	
What description of how the results of the innovation were studied and documented does the manuscript contain? *What details does the manuscript provide to allow for verification of how the innovation was researched?*	
Provide evidence for claims (and consider limitations)	
Beyond simply describing an innovation, what evidence does the manuscript provide of the effectiveness of the *solution/intervention/tool*? *What warrants does the manuscript provide so that recommendations for policy and practice can be constructed or justified?*	
New contribution to knowledge and practices of MTEs	
What specific new contribution to our knowledge does the manuscript make explicit? *What discussion does the manuscript contain about how this study can inform or influence the shared problem of MTEs' practice?*	

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