

## EDITORIAL

### New Directions for *JRST*\*

As we enter the transitional phase of the editorship of the *JRST*, we gratefully acknowledge the dedication and hard work of the current editors, J. Randy McGinnis and Angelo Collins, and their editorial team. They have successfully overseen the transition of the journal manuscript submission and review process from hard copy to on-line, and in so doing have shortened the review period from over 1 year to 4 months. Accepted manuscripts usually appear in early view within 2 months. McGinnis and Collins will complete their 5-year term during spring of 2010 by finalizing the review process of manuscripts submitted up to December 31, 2009. As incoming editors, we are responsible for all manuscripts submitted from January 1, 2010 to December 31, 2015. In our comments below we share with the membership our vision for *JRST*. We welcome critical dialog on these ideas.

As editors of *JRST* we maintain and reaffirm the commitment to a diversity of inquiry modes, high scholarly standards, responsiveness to a world-wide-community, and willingness to publish manuscripts from a variety of perspectives. These features have helped to position *JRST* as the premier science education journal and one of the top educational journals in the world. At the same time, however, we are aware that with increasing globalization, a deeper reliance on on-line technologies, the demand for more timely publication of research, increasing competition with other journals and other media, more needs to be done for *JRST* to maintain its leadership worldwide.

Our vision for *JRST*, therefore, is further defined by a desire to *enhance the impact, visibility, and quality of JRST* throughout the increasingly globalized and internationalized field of science education. We believe that *JRST* should be viewed as *the* place to seek powerful and cutting edge ideas supported by research and theory in formal and informal science teaching and learning. We will utilize new mechanisms within *JRST* to facilitate the level of impact that *JRST* has on policy and practice. For instance, we hope to work more closely with members of the policy community and with NSTA. Finally, we believe that the role of *JRST* as a site of interchange and education among authors and audiences must be further developed in order to push issues, theories and research and to build capacity in science education.

How *JRST* continues to respond to these challenges will impact not only its home organization, NARST, but also how science education research is advanced globally in practice, theory, and policy and ultimately how our work impacts the teaching and learning of science. *JRST* serves a broad community of readers, authors, and reviewers from all parts of the globe. This global presence has blossomed in recent years and will continue to grow, provided *JRST* continues to serve this broader audience. The articles published in *JRST* must provide value for this diverse, worldwide community. They must also educate the larger *JRST* community about increasing global and international concerns. We will seek to better position *JRST* globally by continuing to expand the breadth of contributors, supporting diverse worldviews in educational research, exploring new, creative and divergent methods and ideas in *JRST* manuscripts, and building capacity among authors, reviewers and associate editors. As the knowledge base in *JRST* grows and more cutting edge ideas are published, *JRST* will grow in its global impact.

Publications in *JRST* have explored a variety of critical questions in the field and have used diverse methods to answer these questions. This openness to various perspectives demonstrates the strength of the journal. As an editorial team, we will renew the commitment to seek this diversity in modes of inquiry. We will

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also work to expand this openness through our globally, methodologically, and theoretically diverse editorial team, as well as through efforts to promote special *JRST* sections and editorials on global concerns. To further support members in accessing articles of interest and value, we will organize published articles into focal areas that reflect the strands of NARST. We will keep the practice of special issues, but we will carefully craft these around cross cutting issues that impact members of our community throughout the globe. We will also take the opportunity as editors to prepare editorials for many issues. We will bring a range of voices and perspectives to help us craft editorials over the course of our tenure.

For example, one-third of our associated editors' team (who will be introduced in a future issue of the *Journal*) consists of scholars from outside the US. Further, upon careful examination of the *JRST* submission and publication data for the past 3 years, we have noted those locations where interest in *JRST* has rapidly increased (i.e., Turkey, Taiwan), and where participation in *JRST* has historically been high (i.e., Australia, UK, Israel), among other trends. Not only has our selection of associate editors reflected these demographic trends, but also our entire *JRST* team reflects both methodological and theoretical diversity.

To accomplish our goal of communicating with a broader and more diverse audience, we will work more closely with the Publications Committee of NARST to find new and better ways to connect science education research and findings with policy and practitioner audiences. We will continue to work with the Publications Committee to collaborate with the National Science Teachers Association and *JRST* authors in order to provide research summaries of articles that are written for practitioner audiences. We will also work with the Publication Committee to revive *Research Matters to the Science Teacher* with particular attention to teacher voice. Another route is to publish research briefs on-line that provide concise descriptions of findings of all or select published manuscripts. We will work with the NARST Research Committee to develop mechanisms for preparing research briefs from *JRST* manuscripts that can be disseminated to the Science and Technology Committee of Congress or that we can put on the NARST/*JRST* website. We also will pursue publishing research briefs that undergo an expedited review process as a timely first source of information.

Finally, a critical dimension to sustaining and improving the global reach and impact of *JRST* is how it is rated for impact among other journals in the field of education research. While we remain interested in the Impact Factor, we are also aware of new rating systems of growing importance that incorporate more complex algorithms for determining impact that “disregards self-citation at the journal level” and that give “more weight to citations from high-quality journals and [adjust] for differences in citation patterns across fields” (Wilson, 2007, p. 550).

The quality of the manuscripts based on scholarly criteria cannot be compromised. Criteria that have been upheld by scholars—such as dealing with questions of central importance, linking to and building from existing literature, supporting claims with evidence, and specifying how the findings relate to and push forward the field—to mention only a few—must serve as the foundation of our review policies. Therefore, *JRST* must continue to set the highest scholarly standards for manuscript publication. Adherence to such quality criteria will ensure that a variety of professionals will continue to read and publish in *JRST*, and to value the journal as an engaging intellectual resource that challenges and fosters their thinking about important topics in science education. Education research in general and science education research in particular has a limited reputation within the global research community and is under close scrutiny within the US. As the premier journal in science education, *JRST* must set and maintain rigorous standards that support the publication of a variety of research types so that other research communities, policy makers and practitioners will value and learn from our work.

One of the ways in which we believe it is important to respond to these challenges is through the review process. Manuscript reviews (and the subsequent decision letters prepared from those reviews) are one of the most powerful mechanisms for improving the quality of manuscripts and the impact of the journal. The quality of those reviews may only be as good as the reviewers. Throughout our professional careers, we received excellent reviews of our manuscripts that have influenced their quality and our subsequent work. Yet, we know that writing high quality reviews is challenging—especially for those manuscripts in most need of substantive feedback (i.e., accept with major revision or reject and encourage resubmission). The review

process has been criticized for its ineffectiveness (Jefferson, Wager, & Davidoff, 2002), lack of clarity over what is to be judged (Kaplan, 2005), mismatch between reviewers' expertise and the focus of the manuscript (Lawrence, 2003), and for its political nature (Lawrence, 2003). Developing an understanding of the peer review process, including its inherent challenges and possible pitfalls, is therefore an essential aspect of working towards a culture of high quality reviews. For instance, one common reviewer error is not providing specific feedback to the authors so that they can improve the manuscript or future manuscripts for submission. Another common problem is that reviewers frequently do not discuss all the issues within a manuscript. This error does not help in the resubmission processes. Another common problem that reviewers often make is the rejection of a manuscript because it does not align with the reviewers' theoretical position, rather than considering the theoretical positions that exist in the field and how the manuscript might move the agenda forward. Kaplan (2005) has suggested that there are two functions of peer review, judging the scientific merit and improving manuscripts, and that attention to both considerations is important in "fixing" the peer review system. These are the sorts of issues that we will take up in a suite of professional development experiences for our reviewers. At the upcoming NARST Annual meeting, we will hold our first preconference workshop that will focus on the review process. We hope to hold these preconference workshops throughout our tenure in an effort to build capacity within the field.

Additionally, we will work with Wiley-Blackwell to create various collaboration tools for manuscripts that are accepted with major revisions so that there can be more of an interactive dialog between authors and editors in the revision process. Rather than authors simply submitting a response letter, we will open up the dialog among the authors and editors about ideas that are questionable and could go either way. Such dialog will improve the quality of manuscripts as well as build capacity in the field.

We also hope to work with the publisher and authors to provide appendices that will include information such as assessments, instruments or data on the Wiley website so that others may examine it. These practices are regularly employed in the sciences and it would be worth pursuing their potential value in *JRST*. Another way we would like to develop the power of on-line publication is by working with Wiley to embed video in published manuscripts where warranted.

We feel honored to have been selected as the next editors of *JRST* in order to help move *JRST* forward as the journal of the 21st century. We know and understand that we have a strong reputation to uphold, and recognize the major challenges that we will face to uphold this reputation. Although *JRST* has been recognized as a top-rated educational research journal, other competitors, changing trends, and international concerns require innovative thinking and scholarship to maintain this reputation. *JRST* cannot rest on its past accomplishments but needs to push forward the editorial and publishing process. Although we bring a diversity of experiences to help move the journal forward, we will not succeed without the help, scholarship and service of others in the community. To this end, we have brought together excellent, creative and diverse scholars to serve as associate editors. We also have a group of talented graduate students and a Research Associate to help with the important tasks of running the journal. We will introduce our team in our second editorial. We seek guidance from a diverse Editorial Board to provide direction and advice for the future of the journal. Finally, we look forward to working with you as reviewers and authors of *JRST* manuscripts. Together we hope to move *JRST* forward as the premier journal in science education and build a model of a 21st century global research journal.

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