

Editorial

Julianne A. Wenner

Brooke A. Whitworth

Clemson University, U.S.A.

This special issue focused on *science* teacher leadership. It has been debated in the literature whether teacher leadership is content-agnostic, or whether it necessarily requires a content focus. We – and the authors featured in this special issue – take the stance that *science* teacher leadership is a particular type of teacher leadership (Whitworth et al., 2022). To lead in science education means that one truly understands issues particular to the field, such as the philosophical underpinnings and enactments of the *Next Generation Science Standards* (NGSS; NGSS Lead States, 2013); the policies (both explicit and implicit) related to state standardized testing and how this often leads to science not being taught within certain grade levels; attention to student and teacher safety; and, the selection, ordering, and maintenance of a variety of materials, from paper cups to caustic chemicals. Additionally, given K-12 schools' priorities of English Language Arts (ELA) and math, science teacher leaders must know how to advocate for high-quality science instruction, and how to support teachers in thinking creatively about science instruction. In short, *science* teacher leaders have particular competencies, skills, and behaviors that may differ from teacher leaders in other content areas.

Relatedly, two of the articles in this special issue focus on science teacher leader identity development. Brandon and Kern (2024) describe a community of over 60 science teacher leaders who originally came together to learn about NGSS implementation and have continued to meet to support each other. The authors focus on three of these science teacher leaders to explore how they formed an allegiance to the group that supported their self-identification as science teacher leaders. Further, the collective work of the community served as a catalyst for these science teacher leaders' self-efficacy as well as their agency in leading within their schools. These findings indicate the importance of community when supporting the development of a science teacher leader identity.

Reeder and Rushton's (2024) article takes a longer view of science teacher leadership identity, examining "what is retained" in terms of science teacher leadership identity after a supportive program has ended. Given the fluidity of identity as well as the fact that it is negotiated within context, science teacher leader identity is likely to change when they are no longer being directly supported through a development program. Indeed, in their exploration of 14 science teacher leaders, Reeder and Rushton (2024) found that teachers were able to retain the concept of 'redefined leadership' after the program, collaborating with others to lead, and feeling a sense of responsibility for the science teaching success of their peers in their schools. However, there were a few science teacher leaders who, finding themselves in a less supportive context, could not continue to lead in ways consistent with the development program. Once again, these findings suggest that community is necessary to grow and maintain science teacher leaders.

The third article by Magee et al. (2024) builds on the concept of a community to enhance science teacher leaders' competence around culturally relevant science pedagogy. Over the course of a year, ten science teacher leaders met frequently to learn about the tenets of culturally relevant pedagogy and hear from guest speakers who implemented culturally relevant pedagogy in their math and science classrooms. These science teacher leaders were then tasked with creating culturally relevant science curricula and enacting these curricula to supplement their

district curricula. Magee et al.'s (2024) study focuses on three science teachers from this group to describe the impact of these activities. They found that being a part of a community of like-minded individuals empowered the science teacher leaders and enhanced their ability to 'teach against the grain' to enact culturally relevant science pedagogy. Additionally, the shared language and understandings created during the group meetings allowed science teacher leaders to engage in richer discussions with each other and be clear on their ideas around culturally relevant science pedagogy. This third article yet again highlights the need for science teacher leaders to work in community.

The final article in this special issue by Bateman et al. (2024) is a systematic literature review delineating the difference between a science teacher leader and a district science coordinator. Obviously, there are many similarities between science teacher leaders and district science coordinators, but just as we argue that science teacher leaders are a *particular type* of teacher leader, Bateman et al. (2024) argue that district science coordinators are a *particular type* of science teacher leader, with distinct roles, responsibilities, and needs. Identifying differences between these two types of positions holds the potential for more focused preparation and professional learning for each position and could provide insights into potential career trajectories.

Collectively, this special issue on science teacher leadership paints a picture of science educators working together to support high-quality science education for K-12 students. We see these articles as a celebration of this work and further acknowledgment of the unique skills one must hold to be a successful *science* teacher leader.

References

- Whitworth, B. A., Wenner, J., & Tubin, D. (2022). Science teacher leadership: The current landscape and paths forward. In J. Luft & M. G. Jones (Eds.), *The handbook of research on science teacher education* (pp. 257-272). Taylor & Francis.