

Improving Practice: Wishful Thinking or Determined Action?

Jerrid Kruse

I would like to express how excited and thankful I am for the opportunity to serve the members of the Iowa Science Teacher Section (ISTS) as the editor of the *Iowa Science Teacher Journal (ISTJ)*. I eagerly look forward to working with members of ISTS, the ISTS leadership team, and the *ISTJ* editorial team. I hope to continue the trajectory of excellence already established during efforts to revitalize *ISTJ* over the last three years.

This journal has worked to make clear the important role of the teacher in making classroom activities effective. I intend for the journal to continue this trend under my editorship. This special *ISTJ* issue is dedicated to the teacher's role in improving their own practice through deep reflection and action research. In order to improve, we as teachers must determine our current state of practice, the desired state of practice, and implement changes to bridge the gap. The articles in this special issue provide valuable insight useful for making steady progress toward improving our practice of teaching science to children.

We all start our careers knowing what kind of teacher we want to be. Unfortunately, the intense demands of effective teaching, institutional constraints, and stress wear us down. Without care and reflection, we can unconsciously become the teachers we swore we would not. As time goes on we can become more and more unaware of the condition of our teaching, and our lofty goals can easily crumble under the weight of curriculum, time, grading, meetings, etc. However, we must not lose hope! Children are too important for us to ever accept anything but the best teaching practices. This special issue of *ISTJ* is dedicated to helping us maintain our idealism, and keep us aware of and improve our pedagogical practices.

In his article, Michael Clough sets up a framework useful for thinking about all that is necessary for effective teaching. Jesse Wilcox's contribution notes the benefit of collaborative reflection and conducting action research to improve practice. Herman and Sanderson, et. al. provide examples of their action research efforts. Action research serves to stimulate extensive reflection when forming research questions or analyzing results. Herman's conclusions demonstrate the remarkable synergy required among teacher behaviors and provides concrete strategies to move teaching practices forward. Sanderson et. al. consider the benefits and improved learning outcomes of inquiry-based teaching. Their article serves as a model for modifying traditional activities to fit with science education reform.

Despite the well-documented problems in science education, many teachers work tirelessly against great odds to ensure their students receive the most effective and meaningful science education experiences. I remain optimistic about what effective science teaching practices can achieve, and hope the articles in this special issue help you maintain your optimism. While positive change takes significant time and continued effort, the articles of this issue provide important suggestions and strategies to begin moving forward. Teachers are the most powerful factor in their students' learning, and teachers are also the most important factor in their own success. Caring and effective teachers always consider how they can be more effective, and I trust the articles in this special *ISTJ* issue will assist in that noble pursuit.