



The President's Paragraph: Notes from HASTI's President

David Butler

In each issue of The Hoosier Science Teacher, we invite the president to share some thoughts as an introduction. In this issue, HASTI's most recent President David Butler shares some philosophical opinions about the purpose of teaching our students about science as his term ends on June 1. Look in the December 2022 issue of THST for an introduction from HASTI's new president Staci Hootman.

When was the last time you identified or clarified your values with regards to science education? We are so caught up in our day-to-day duties at school that sometimes we forget to examine our beliefs, goals, and understandings about the meaning of education. In this passage, I would like to share with you one of my philosophies regarding the teaching of science which has been strengthened by my interactions with HASTI members, work colleagues, and students. Teaching science is not just about presenting content but also about providing opportunities to find purpose for learning about the concept being discussed.

For instance, when teaching students about DNA during a lesson on genetics, an educator undoubtedly mentions structure and function. I expand the lesson further to also include student-centered activities. I enjoy opening the floor for discussion in order to get student input regarding why they feel that DNA may be important to learn about. Everything from criminal investigations to cloning can surface during this time of enlightenment. Nothing makes a topic more meaningful than engaging students in a lesson that provides a sense of reality such as a project or lab activity.

During one such investigation, my students have the opportunity to extract DNA from their own cells. One day, while my students were engaged in their DNA activity, I overheard a student remark, "It's so beautiful" while they watched their own DNA take form inside a test tube. Even though that comment warmed my heart, that simple remark most certainly helped to



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provide a purpose for isolating their own DNA, motivation for studying genetics, and an appreciation for the magnificence of nature. In my opinion, in order to make a subject have purpose and have real life meaning for students, one must first simplify complex concepts to ensure understanding.

One way to do this is to use what is familiar to students in order to bridge and explain the unfamiliar through word play (puns, analogies and/or metaphors). One can also use instructional techniques such as scaffolding to break up a concept into discrete parts and provide students with the help they need. In addition, it is beneficial to differentiate instruction in order to give some students the opportunity to choose an activity or project to complete; for example, an assignment based on their reading abilities or interests.

Ultimately, your goal is to move students toward a stronger understanding and appreciation of not only science, but likewise, to guide and encourage them to adopt my motto: "Never stop learning and wanting to know."

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