



Poetry in the Science Classroom

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Poetry can be a window to the inner self. Poetry allows people to speak freely about who they are and how they view the world. Poetry is seeing and hearing and feeling and knowing and understanding and sharing. Sometimes a short poem says more to the soul than does a novel. By writing poetry in the science classroom, students may bring a science concept into their inner selves and examine what they still need to find out. This process can be an important step in actually understanding a science concept.

Poetry offers students connections to their real lives. Classical, as well as contemporary, poetry should be included for reading enjoyment. Writing poetry should become something that students feel they can do. By reading and writing poems, students will learn to see poetry as a possibility, just as they themselves and endless possibilities.

Many people, especially children, are adept at creating visions of places seen only in imaginations - places made real by the very act of creation. So, what happens when you ask those same people to imagine places that are very real, to find the poetry in water and earth and stone? And what if students are asked not just to explore the simple beauty of a place, but also to reveal its environmental wisdom, and find their connection to that place through poetry? The result would be children who find their place in the natural world, children who know that water does not just come from tap, children who know their "ecological address" as well as the name of their street, their town, and their county, children who provide hope for the future.

Opposing Viewpoints

For those who appreciate the depth that poetry can add to the science curriculum, it is difficult to imagine that anyone finds poetry boring or unnecessary. Yet, for

many people, poetry is an impossible task that they would rather avoid. Others feel that poetry is inappropriate for a science classroom. They believe that combining science with language arts, particularly poetry, dilutes the science and takes time away from more serious endeavors. Carl Offner, in "Dumbing Down Mathematics and Science: Sizer's Essential Schools Proposal," makes the following points:

We have all heard of cute, "physics for poets" or "science for the right-brained" curricula. This idea feeds into the destructive cultural stereotype that science is difficult and has to be simplified in order to be understood. By way of contrast, a course entitled "poetry for physicists" would rightly be regarded as a joke.

The idea that "less is more" is misconceived when it comes to science education. The problem we have is not that our students are being taught too much, but that, really, they are being taught too little: that science and mathematics are not being taught as the central intellectual human achievements that they are. One cannot convey this by extracting a small part of chemistry, say, and "having the students learn it really well." Students must have a view of the subject as a whole; they must see the broad scope of the subject. This cannot happen without learning a lot of details in the process.

It is unrealistic to expect high school students to do original scientific work; they do not yet have the background, and it would be doing them a disservice to pretend they do. It is important to keep in mind that we are not turning out high school scientists: we are turning out people who have an appreciation for the way science is organized and who have an ability to read about it and learn more about it. We are turning out people who at some level understand the basic organizing principles of science.

Full listing of authors and contacts can be found at the end of this article.



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We do need scientifically literate citizens – people who can appreciate the relationship of science to public issues. But science per se is not public issues. Attempts to build science courses about matters of public policy (acid rain; destruction of rain forests; nuclear energy) fail because they do not really teach the core content of science.

Displacing the scientific curriculum by a discussion of social issues does not empower our young people. It actually disempowers them because it creates the pretense that they are dealing with scientific ideas without giving them any of the content that would enable them to understand what they are talking about.

Integrating Science and Language Arts

“I wish to propose the following educational technique which should prove equally effective for Harvard University and Shreveport High School,” Walker Percy wrote in his book, *The Message in the Bottle*. “I propose that English poetry students should find dogfishes on their desk and biology students should find Shakespeare sonnets on their dissection boards.”

Since 1970, Dudley Herchbach has done something very similar in the basic chemistry classes he teaches at Harvard. Twice a year he asks his students to write a poem meditating on some of the big ideas, such as thermodynamics or quantum mechanics, introduced during the term. In all likelihood, he says, writing a poem comes closer to real science than anything these students have done before in science classes. “These students have to get beyond the idea that the subject is something that belongs to the authorities, the establishment. Unless they can get beyond that and begin to play around with ideas, rather than just memorizing formulae, they will never make the transition to becoming a scientist who does interesting, original work.” Science, he adds, requires a playful attitude, a mind open to all kinds of possibilities. “That’s what poetry is all about – something vivid, unexpected, offering little delights and surprises along the way.”

Reading Poetry

Sometimes it is enough just to hear poetry read out loud. It is not always necessary to dissect it. A teacher may wish to talk with students about their connections to a poem, such as things students remembered as they listened, or their feelings generated by that poem. A teacher may choose to wait until the day after reading a poem to talk about it. For every poem a teacher reads to students, another connection waits in the wings.

The emotional intensity of poetry coupled with strong sound elements such as a rhythm, can lead children not only to identify with the image of the poem but also to return again and again to enjoy and reflect. The poetry of specific cultures can reveal their interaction with the environment, thereby providing an interdisciplinary element to the study.

Reading poems aloud during environmental study not only enhances children’s sensitivity to the world but also provides models for students as they explore and create their own meanings through writing. These models can help children find their own ways of expressing appreciation of the environmental images and increasing awareness for wise stewardship of Earth’s resources.

Writing Poetry

Poetry is an art form that is accessible to every student in some way. A poem is an organized way of expressing insight through language. Meter and rhyme combine as one kind of poetry. Song and free verse are other forms of poetry.

Gather students together and talk about the things that can be done to save Earth and its inhabitants. Ask someone to be a recorder and write the responses on chart paper. Work together to boil ideas down to central themes; then ask students to work in small groups and write a choral poem to be shared with the entire class, other classrooms, administrators, parents, ... Students may want to save the reading of their poems for Earth Day.

Another choice may be to talk with students and help them expand their thinking and their imaginations – what if one could see the wind as well as hear it, what if one could taste the rain, what if clouds could be touched, and why do different clouds not only make different weather but also make us feel differently, etc. Some of this thinking could lead to exciting writing choices for the students.

The International Rivers Network sponsors an annual poetry contest. The feedback from educators indicates that writing poetry can address the needs of students that are frequently overlooked and can reach students that may not be reached in other ways. Some of the quotes from educators about their experiences with the contest follow.



From an Illinois teacher at T. Marshall Middle School:

"I want you to know who these children are, not because I expect this information to influence your decision, but just so that you can share my pride in their accomplishment. All three are immigrant children and students in a big city public school system which is beset by all the usual problems of urban education. None of the three speak English at home. One of them, Luis, is also learning disabled."

From an Alabama teacher at Robertsdale Elementary School:

"Thank you for the opportunity to participate in this activity. To my knowledge, our students have never done anything like this before. This is a rural area, and I had no idea of the interest our students had for poetry."

From a Connecticut teacher at Hartford Institute of Living:

"I teach at a psychiatric hospital school and these poems are from my students. They composed these totally on their own and I am very proud of them."

From a California 6th grade teacher:

"The majority of my students come from ranching backgrounds where the word 'environmental' is considered a four-letter word at best! My students are growing up in a time when a portion of the 'outside' world considers their lifestyle to be harmful to the environment... [They] gladly accepted this assignment as an avenue to let their voices be heard. Thank you for allowing them that opportunity."

These quotes speak of the universal nature of poetry and the way that diverse individuals can take complex subject matter, relate it to previous experiences, and then communicate understanding of the subject. Is this not one of the main goals of education?

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Note: Issues of THST prior to 2016 did not use APA format. Editors chose to keep the original format for this reprint.

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