

Incorporating Poetry into the Science Classroom

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When we think about a science classroom, one of the first ideas that may come to mind is the idea of “hands-on” learning. Doing experiments, and observing data, to eventually come to a conclusion. But, like every discipline in education, there is always the foundation of literacy that can and should be addressed in a classroom.

In Akerson’s (2002) essay, “Teaching teachers: Bringing first-rate science to the elementary classroom,” she argued, “It is possible to use language arts to support science learning and to use science as a purpose for learning language arts.” She also reminds us that the “use of language arts to promote literacy and support learning in other content areas is (also) recommended and encouraged by the International Reading Association (IRA) and the National Council of Teachers of English (NCTE).”

While we do have this standard of teaching and learning, the question arises: How do we incorporate literacy into a science classroom, specifically writing? And when we do find a way, how do we keep the students engaged?

Rasinski, Zimmerman, and Bagert (2015), argue that poetry should be a focus when incorporating literacy into the classroom, as it gives students many advantages.

In his article “Physics and Poetry: Can You Handle the Truth?” astrophysicist Adam Frank (2013) declares, “Poems and poetry are, for me, a deep a form of knowing, just like science ... each, in its way, is a way to understand

the “world.” So, there is not a disconnect between poetry and science as some may initially think.

“Poetry has an advantage in that it typically consists of fewer words than expository-prose passages, and poems can be read and reread in very little time. The brevity of poetry is less intimidating to children who may be overwhelmed by longer prose and streams of new vocabulary, especially students acquiring English as a new language” (Vardell, 2014, p. 30). Poetry also allows students to experience all five senses, through the use of imagery and descriptive vocabulary (Vardell, 2013). It can be accessible to a multitude of students. Students could have affinities for writing, science, or even music and they would be able to craft a poem. It also allows students to work independently, without having to worry about writing a poem the “right way”.

However, before letting students write their own poems on a science topic of their choice, it is important to first give them examples, especially if they have not had any meaningful experiences with poetry.

Vardell and Wong (2015) provided a multitude of literature that incorporated poetry and science topics. They wrote:

There are many wonderful science themed works of poetry to choose about animals, weather, seasons, and space. In addition to short, visually appealing poetry collections such as *Water Sings Blue: Ocean Poems* by Kate Coombs, *Ubiquitous: Celebrating Nature's Survivors* by Joyce Sidman, and *A Strange Place to Call Home: The World's Most Dangerous Habitats and the Animals That Call Them Home* by Marilyn Singer, you can also find comprehensive anthologies such as *The Tree That Time Built: A Celebration of Nature, Science, and Imagination* compiled by Mary Ann Hoberman and Linda Winston; *The National Geographic Book of Animal Poetry* compiled by J. Patrick Lewis; and our own *The Poetry Friday Anthology for Science*. (p.16)

And of course, there are many other books that can be used to connect science to poetry. They can be used as read-alouds, or independent reading, depending on what a teacher determines will be best for the classroom.

Once the foundation for poetry is set, it will be beneficial to students to let them write their own poems. They will be allowed the freedom and creativity to decide how their specific topic can be crafted into a poem. According to Silverton (2015), "Middle School students respond well to humor, enjoying the freedom to play around with words and give them new meanings" (p. 38).

Silverton (2015) also stated, "Science, with its cold clinical logic, may be seen as the opposite to the creativity of poetry, with little or no connection between them, but each is creative in its own way" (p. 38). Rhyming is a key part of most poetry, and that can be beneficial to students. Silverton concluded that, "Given freedom, most students write a poem which rhymes. They are familiar with rhyming couplets from the songs they listen to, and often know by heart. Ask any teenagers to sing some popular lyrics, and rhymes will appear" (p. 38).

If the present unit in a seventh-grade science classroom is body systems, then students can write poems about a body system. Here is an example of a poem about the muscular system written by the author, Hania Ahmed:

Muscular System Poem

Let's learn some things about the muscular system.

Try to keep up, or you might miss them.
There's three major muscle types, didn't you know?

I'll tell you about them, nice and slow.
First is the smooth muscle, these are involuntary

Want to know why they are necessary?
These muscles help organs relax and expand.
They help move blood in your body, from your eye, to your hand.

Next is the cardiac muscle, these are striated.

Think these muscles are overrated?
They pump blood throughout our bodies.

With the help of veins and arteries.
Last is the skeletal muscle, these you can control.

Use these to run or take a nice stroll.

Those are the muscles that you need to
know.

Did you know them all a while ago?

If you did, then this was a review.

But, if you didn't, then I'm glad you learned
something new.

The poem given above gives the main functions of the muscular system, which is almost imperative that students know for their unit tests. It also makes learning and absorbing the information easier with the rhyming couplets, and a rhythm that can be enjoyable.

Before teaching this poetry lesson, students can be given examples of previously published and created work, such as the poem above. By exposing students to the different formats and techniques to write their poems, they now have the groundwork to begin their own creations. This also allows students who may have trouble coming up with ideas to have resources to refer to whenever they may need it.

After giving students the desired time allotment to write their poems, the teacher can allow them to share their poems. This promotes ownership of their work, and could help other students to learn new information or remember previously learned information.

This use of differentiated instruction allows students in science classrooms to get the information needed in a newer, perhaps easier way. And once students have created their own poems, this could lead to the writing of science songs, which can be beneficial as mnemonics.

While the use of poetry has mostly been contained in language arts classes, the use of poetry in other disciplines can be very

beneficial to the students. The use of poetry in science classes, for example, can help students better understand more challenging vocabulary, and allow students to take in information in smaller increments, as opposed to an expository text. Lastly, it provides a bridge between writing and the content area, as education should be .

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Hania Ahmed is preparing to student teach in the spring 2018. She is seeking certification in grades 4-8 mathematics/science and wants to teach middle school science. After teaching for a few years, she would like to get a Master's degree in Administration. She is interested in becoming a school administrator and possibly running for a school board position in the future. She can be reached at hsa006@shsu.edu.