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Connections Across Curricula

By Elizabeth Barrett-Zahn

The idea of combining content areas is not new to elementary educators. Often, in an attempt to create a learning space for science, teachers have relied on making connections to other subject areas to enhance or enrich science learning experiences.

Back in the day, thematic units organized learning around a central theme and creatively integrated all subject areas under one topic. My first experience as a science teacher was in this environment, where every grade had their own real estate in the thematic unit landscape. The excitement around butterflies, pumpkins, and life-sized rainforest representations taking over entire hallways created a palpable excitement within the school.

So, what was the problem? This became most evident to me when I was informed that I couldn't bring butterfly larvae into a first-grade classroom because "third grade does butterflies." Time and time again, teachers would summarize the classroom learning with these types of statements: "We do pumpkins" or "We learn everything about the rainforest." These statements spoke volumes about what was missing: big ideas, critical underlying concepts, and yes, standards. Students weren't learning about cycles of matter and energy transfers in an ecosystem, structure and function of living organisms, or how traits are inherited; instead, their focus remained on isolated vocabulary, disconnected studies, and prescriptive activities.

Today's teachers are discovering that the emphasis is not on simple content vocabulary recall following "cookbook" labs or teaching through isolated, content-thin curricular modules; instead, the teaching and learning experiences are student-centered,

student-directed, immersive, authentic, and connected to deep learning. Recognizing in my first readings of the *Framework* and early drafts of NGSS, this shift from "mile-wide, inch-deep" concept understandings to an emphasis on developing flexible, critical thinkers who are ready and able to solve problems was wonderful; and had essentially been the most important missing element in this teaching and learning equation.

NGSS supports integration in a variety of ways, whether it's the connections to language arts and math or the overall focus on three-dimensional teaching and learning. The core ideas often blur former curricular silos of physical, life, and Earth sciences. Students, even our youngest learners, are asked to solve real-world problems and create optimized solutions as they take on responsibility in the path and direction of investigations and outcomes.

We are now ready to resurrect the advantageous elements of the thematic unit, within the guidance of the *Framework* and NGSS, so that teachers can develop integrated, authentic, purposeful classroom experiences. This month you will find features and columns that offer an abundance of suggested ideas for cross-curricular integration of learning for PreK–5 students. Learning to build meaningful, memorable anchor lessons grounded in essential big ideas in science and engineering with emphasis on engaging students in developmentally appropriate, yet challenging, learning experiences, can serve as the next iteration of the thematic unit model.

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