Chapter 5 Crafting multifaceted unit questions in the areas of interaction

Environments
What are the physical, biological and cultural worlds like in which we live?
What resources do we have or need and how do our needs for different kinds of resources complement or conflict with one another?
How can I draw on multiple areas of expertise to understand and act on my responsibilities toward the environment?

Health and social education
How do I think and act as a biological, social and cultural being and how do these aspects of myself inform others?
How am I changing in various dimensions of who I am?
How can understanding the historical or environmental context in which I live help me look after myself and others?

The problem with “thematic units”
All too often, interdisciplinary teaching in schools takes the form of “thematic units”, whereby a large theme such as “civilizations” or “water” is established and teachers are charged with finding how to connect these. Too broad a topic definition is likely to result in a lack of clarity about what exactly it is that we would like students to understand about the theme in question. As a result, not uncommonly, broad themes can yield superficial or forced connections and fragile understandings.

An example: Egypt
As a schoolwide theme, students aged 11 are studying Egypt. In history they learn about Egyptian lifestyle and theocracy. In art they examine Egyptian paintings and create their own motifs. In geography they study the patterns of flooding in the Nile. In mathematics they learn to estimate the surface and volume of pyramids and other shapes. In theatre students put together a show based on Cleopatra’s biography.

The hallway displays in the school suggest a schoolwide effort to provide students with a more integrated learning experience across subjects. However, the substantive integration of content is less than optimal. Why should students learn to estimate the surface of shapes including the pyramid to understand ancient Egypt? What is the significance of the flooding patterns in the Nile? To move beyond superficial links across subjects teachers must clarify their inquiry goals through the articulation of clear multifaceted unit questions. For example, teachers may ask “how do we know that the ancient Egyptians advanced a great civilization and what kind of society did they need to have to reach their peak?”

A question of this kind integrates an analysis of the pyramids and Egyptian art meaningfully. A real-size calculation of the surface of the pyramids may be used to estimate the number of individuals, indeed generations, needed to construct them. Students can then examine the type of social structure and government that would have been necessary to accomplish the task. Similarly, Egyptian drawings would not simply add enjoyment to student learning but serve as sources of evidence to identify markers of social structure and interactions.

A second multifaceted unit question within the same theme might emphasize “how did the Egyptians' natural environment contribute to their great cultural production?” Here the long-studied and predictable patterns of flooding of the banks of the Nile may inform students’ further analysis of social structure and accumulated wealth. In these examples, learning in the subjects comes together purposefully to address clearly formulated questions that would not be satisfactorily answered through single disciplinary approaches.
The problem with field trips
Like thematic units, field trips hold the promise of integrative learning. Excursions into cities, parks and mountains genuinely engage students in real-life experiences that can be transformative and present opportunities for deep learning. Teachers capitalize on such opportunities when they structure the trip around key multifaceted unit questions for inquiry. Consider two contrasting examples.

A unit on national parks concludes with a day-long visit to the local park. A group of excited 14-year-old students step off the school bus and prepare to walk from one landmark area to another in the park—the sandy shore, riverside and mangroves. Their task is to listen carefully to the guide and gather as much information as possible about each area. For the first hour some students take notes diligently while others scribble haphazardly onto a page a few names of local species and information on local tourism. As the day unfolds it becomes clear that the main source of excitement for students is the experience of a day out of school.

In a different case (a unit portrayed in the next chapter) students visit a local park with an important purpose in mind. The area has been attracting tourists to the park and students are expected to measure levels of pollution at particular areas. They employ geographic and biological tools to map the three courses of the rivers and the shape of the shore, and to assess the conditions of the environment. Unlike their peers in the previous example, these students approach their fieldwork with multifaceted unit questions in mind. They ask the following.

- How is human activity affecting the mangroves and sandy shores that attract tourism to the region?
- How can an ecotourism initiative support a sustainable and balanced relationship between water and humans?

Reflection point
Consider the following themes commonly used in schools around the world. How might they be transformed into potent multifaceted unit questions?

- My community
- Time
- Water
- The news
- Values
- Ancient civilizations

Think about a field trip for your course. How might the field trip invite interdisciplinary learning and what multifaceted unit question might guide students' inquiry during the trip?