4. PARTICIPATING IN AND TRANSFORMING COMMUNITIES OF PRACTICE

California strawberries are far, far away
Michigan Strawberries are really close today
Using a truck to get them here
Will cause pollution
There is a solution
The solution is to pick strawberries here
They don’t have to go far when they are near
Energy is money
And money is time
When we drive down the street
We are on a very fine line
To save the earth
And have our berries
Buy them local
Do not tarry
Word.

—Rap produced spontaneously by Shawna & Cathy during a unit on the 100-mile diet, July 2008. To listen to the rap, go to: http://barton.wiki.educ.msu.edu/file/view/strawberry_rapfinal.m4a

Kathy and Shawna, authors of the rap above, were two of several youth at an urban community club who were involved in a summer program focused on investigating the “farm to table systems” in the US. Both 11-year-old girls were adamant on engaging in this environmental issue in relation with their real lives, particularly in relation with the food they eat. When deciding upon a way to express their views about food transportation, they chose to create a rap about strawberries because they thought it would be a good way to compare the differences between local and imported strawberries. Strawberries were also one of the main products that they had tasted earlier in the unit. They had compared the taste of strawberry pop-tarts, frozen strawberries, strawberry jam and fresh strawberries as part of looking at the broader picture of food packaging, processing and transportation. So, before making the rap they had engaged in several activities and discussions regarding “what happens to food from farm to table” and how that affects the environment.
As a transition activity between exploring the main components of the current farming system (food production, processing and packaging, and transportation) and further investigating how each of these aspects contributed to carbon emissions and a carbon footprint, students were asked to create posters that “mapped out” what they thought was the farm to store process, using the example of a strawberry one might purchase in a mid-Michigan store. Students were encouraged to use the computers to find images and additional information to augment their posters. As Kathy’s group planned out their poster they began to write a rap song that explained the problems associated with the current farm to store system. In addition to using the computers to look for pictures, they opened up Garageband, a Mac program that is designed for amateurs to compose their own musical pieces. Garageband allows users to choose among a variety of musical instruments and sound effects that they could play using an on screen keyboard. The girls and their group mates enjoyed this feature and began to play around with beats to liven up their song. They even stayed after the session is over that day to get their rap recorded because they thought that their rap did a better job explaining the farm to store system than did their poster. After trying several beats for their rap on Garageband, Shawna gave up and decided to drum out the beats herself on the table instead for the sound effects.

Episodes like the one presented above raise questions about how students leverage their narrative experiences towards becoming what we have referred to elsewhere as “community science experts” (Calabrese Barton & Tan, 2010). In other words, how do students use their own positions – their cultural knowledge and experiences – to gain a voice in both science and their communities? We are also interested especially in the ways in which youth construct hybrid discourses, or discourses that call upon the ways of knowing and being and the specialized language of both the peer community and of science to do. We wonder not only “when” do youth take up such hybrid discourses, but also what are their forms, and what role(s) do they play in (re)positioning the youth as community science experts. Finally, we wonder, what does this all teach us about democratic and empowering science classrooms?

In this chapter we take up these questions in the context of a summer science program focused on engaging youth in a critical exploration of the 100 mile diet. The 100 mile diet is a concept that challenges one to examine the impact that the globalization of the typical diet has on environmental health and sustainability, the local economy, and the broader food system. Drawing upon classroom footage, student interviews and student work and critical discourse analysis we examined how teachers and students “talked” to each other through student work and classroom dialog, and how that talk changed over time, noting how the language students used positioned themselves and others with particular roles and expertise.

**BECOMING AN EXPERT: MEANINGFUL PARTICIPATION AND DISCOURSE**

All learning and activity is situated historically, culturally and socially (Rogoff, 2003). How or why youth make sense of their worlds depends, in part, on the cultural practices of their families and communities, and what counts as meaningful knowledge.