Welcome to the classroom of Jill Sontag and her 19 young bilingual collaborators. Join them as they simultaneously explore the world of insects and the world of language. These curious and energetic second graders are easily drawn into the realm of bugs. Encouraging them to speak in Spanish, however, is a bit more complicated. Jill uses her professional judgment to make choices on when and how to reinforce second language acquisition in Spanish in this two-way bilingual immersion classroom. Creativity and humor are cornerstones of her pedagogical style and are maximized throughout this inquiry-based curriculum.

In this section Jill focuses on science vocabulary in Spanish, and the children use this as an opportunity to extemporaneously engage in Spanish word play, using the word “ninfa” (larva) as their base and moving to “ninca” (a nonsense word using Spanish phonetics), “finca” (farm) and “Inca.” Content and literacy are authentically interwoven as the teacher skillfully promotes bilingualism.

Author’s note: Because the children in the story are still developing their second language skills, they continue to make grammatical and syntactic errors, which are reflected in the following narrative. To aid the reader in negotiating a bilingual script, all dialog in Spanish is italicized.
The mealworms lay on a table nearby in small vials. They had molted and were no longer fun to play with. Dry, crumby worm skins rested atop oatmeal mounds in plastic cups. A chart at the front of the room noted the changes that had occurred: “café, blanco” (brown, white); “café claro” (light brown); “se pusieron blancos” (they turned white); “su piel está saliendo” (their skin is falling off); “Hay cáscara en el vaso” (There is a shell in the cup). The former classroom pets, now motionless and boring, had relinquished their hold on second grade attention. Ms. Sontag, however, had other plans.

The sound of bouncing feet and hallway chatter soon ended her reverie of bugs. Children spilled into the classroom, eager for whatever activities the afternoon would bring. Ms. Sontag was ready. She explained, in Spanish, that they would receive new insects and that each group would be responsible for their care. The children examined the small brightly colored specks inside the vials that she distributed to the four tables; a vivid blend of orange, yellow, and pink contrasted sharply with the wisps of bleached white cotton in which they were entangled.

Then the guessing began.
“¡Yo sé, yo sé! ¡Piojos!” (Spiders!)
“¡Arañas!” (Spiders!)

From across the room Andy cried out joyously, “Lice! They’re lice! They’re lice! They’re lice.”
“¡Yo sé, yo sé! ¡Piojos!” a child agreed with Andy. Soon a bilingual chorus took up the idea of head lice.

Ms. Sontag formalized the guessing session by asking for a show of hands from those who thought they knew what was contained in the vials. Each child who volunteered an answer was asked to explain the theory behind the conclusion. When it was Glenna’s turn, Josh leaned towards her to whisper a reminder of their table’s consensus.

*Que son arañas...* (That they are spiders…)

“Arañas,” Glenna announced loud and clear.

“¿Por qué crees que son arañas?” (And why do you think they are spiders?) Ms. Sontag pressed.

“Porque las arañas tienen como... Yo no sé cómo decírlo.” (Because spiders have like... I don’t know how to say it.) She moved her hands in connecting lines resembling an imaginary spider’s web and then pointed to the vial on her table as a substitution for the words she could not express.

“Do you know how to say it in English?” Josh whispered to her. “Like a web.”

“Telaraña,” Ms. Sontag coached and Glenna continued.

“...y y hay una chiquita, hay una chiqueta que se (puede) verlo... verlo... muy chiquito... y ver como hay unas arañas.” (And... and there is a little one, there is a little one that you can see it... see it... very little... and see how there are little spiders.)

“¡Asaaaaaah,” Ms. Sontag signaled her comprehension. Later she would tell me that she believed that Glenna thought the wisps of cotton in the vial were a spider’s web.

The substantiated guessing continued. “Huevos” (eggs) was mentioned as one possibility. A number of children elaborated on what type of insect eggs they might be. When group curiosity reached its peak Ms. Sontag announced, “Estos son huevos pero todavía no sabemos de que son. ¿Verdad? So, vamos a esperar, vamos a ver si cambian, y a qué cambian.” (These are eggs but we still don’t know what they are. Right? So, we are going to wait, we are going to see if they change, and what change.)

Change. We are going to wait. We are going to see if there is change.

The promise of change lies everywhere in this room. Change in the mealworms asleep in their molting. Change inside the mysterious orange-yellow-pink eggs nestled in their cotton wisps. Change in the searching, reaching, grasping for new words, for new ways of describing the ever changing world of room 307.

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Glenna studied the vial with a blank face. The brightly colored eggs had disappeared and left in their place minuscule black insects that now crawled through the wisps of white cotton. She placed the vial down and glanced at her lap. Two pieces of paper, each folded in the shape of a belt, lay next to each other. She reached inside her desk and pulled out a pink magic marker and began to draw on one of the papers. Out of the corner of her eye she spotted Sammy at the adjacent table. He grinned in her direction. She grinned back. He stuck out his tongue and moved his head from side to side, smiling the whole time. Forgetting the art project on her lap she mirrored his movement and expression. Pleased with her response, he continued the game until a few minutes later when Ms. Sontag redirected the attention of the class to the front of the room where she prepared to lead a discussion.

As Ms. Sontag and the class discussed the changes that had occurred in the eggs, Glenna discreetly returned her attention to the art project on her lap, which she worked on for about five more minutes.

“¿Cuáles son las cuatro cosas que un animal o un insecto necesita para sobrevivir?” (What are the four things that an animal or an insect needs to survive?)

Glenna’s hand shot up like lightening. Her response, “espacio” (“space”), was added to the list of elements that insects need for survival. When complete, the list included “aire,” “comida,” and “agua.”

Ms. Sontag demonstrated how to construct a habitat for the small black bugs, and then gave each group the responsibility for setting one up at their table. Glenna returned the paper and marker to the inside of her desk and contributed to the group effort. She began interacting with the other members of her group, the “Resultados” (Results), in Spanish. As the children worked and time wore on, however, the conversation became bilingual or English-dominant. Ronald made a “tree” out of the twigs the children had collected at recess, Diana spread stretched-out cotton balls in its branches and punched holes in the Ziploc plastic bag for air, Josh cracked the nuts out of sunflower seeds with his teeth, and Glenna set up the water source.

“¡Hurry up!” Glenna rushed Josh along as he crunched down
The promise of change lies everywhere in this room.

on a nut and then devoured it, despite Ms. Sontag’s caution against eating them raw. The pile of the required twenty-five shelled seeds was growing at a snail’s pace.

Glenna held up the vial of black bugs and asked, “Who wants to put it in?” Diana volunteered to assist her. As if surgeons performing a delicate operation, the two girls transferred the black bugs to their new home. Glenna held open the bag as Diana opened the vial and placed it inside the Ziploc habitat. Finally Diana sealed the bag. Glenna labeled it with the “Resultados” name, and the two carried it to the front of the room to be taped to the board by Ms. Sontag.

With four Ziploc bags taped to the front board, Ms. Sontag conducted the

“Ninfa,” repeated Ms. Sontag.
“Ninfa,” chorused the children.
“¿Qué quiere decir bebé?” (“What does baby mean?”) Ms. Sontag did a comprehension check on the meaning of the word “ninfa.”

“¡Bebé!” (“Baby”) shouted a lone voice. “¡Finca!” (“Farm!”) “¡Fincas!” (“Farms!”) Amidst giggles the children played with the word.

“No, no, no son Incas. Queremos tener respeto” (“No, they are not Incas. We want to be respectful”) cautioned Ms. Sontag.

“Son ninfas.”
“¿Ninfas?” cried the girls and boys. At her seat Glenna played with the word “ninfa” as she had previously played with her paper and marker. “Ninfa ... finca ... finca ... ninfa.”

Calendars were marked and observations were recorded. Ninfas crawled around in plastic bags taped to the front board as children carefully inscribed the word “ninfa” on their charts.

“Vamos a ver qué pasa con los insectos de algodoncillos.” (We are going to see what happens with these milkweed butterflies.) Change has occurred yet still we wait.

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“Wow, wow, wow, wow, wow!” Sammy’s face beamed amazement; his smile reached his eyes and his eyebrows pushed up his forehead. He held up the small vial incredulously. Inside a winged bug crawled around its prison. He examined it carefully.

“It’s a lightening bug,” he finally pronounced.

“See, it’s not a butterfly!” responded

José Luis, another member of the “Preguntas” (“Questions”) group.

“We made a bet and you owe me a dollar!” Andy cried triumphantly.

José Luis supported Andy’s position.

“Yeah, it didn’t turn into a butterfly.”

Nearby, the “Resultados” were more subdued. Glenna examined her vial carefully. She was not so easily impressed. “He’s eating the oatmeal,” she finally announced, forgetting that in its past life the bug had been named Jessica or Marisol.

The four children continued their quiet examination of the insects, and then Glenna replaced the cap to her vial. When questioned about this by her companions she explained, “I don’t want to touch his air.” Josh and Diana shrugged their shoulders and raised their eyebrows as if to say “We don’t get it.”

The “Resultados” decided to take a look at each other’s bugs and passed them around the table. After comparison with the others Glenna became disappointed with her specimen. “¡Maestra, mio no está haciendo nada!” (Teacher, mine is not doing anything!), she complained, as Ms. Sontag passed by.

Ms. Sontag knelt beside the “Resultados” table. Diana held up her vial, face glowing. Inside, all were able to view her winged bug moving as rapidly as the constricting space would allow. Glenna abandoned her insect and giggled wildly as she looked inside Diana’s vial. Soon clusters of children from other tables were gazing at the frantic bug.

“He’s doing exercises!” Glenna announced, leaping out of her chair and demonstrating. With renewed enthusiasm she returned to look inside her own vial and was rewarded to see her bug coming slowly to life.

“Lookit, he’s turning,” she shrieked dramatically. Then she bounced over to visit the “Preguntas.” Positioning herself near Sammy, she looked over their bug collection.

“¡Josh, Glenna, Diana, a su mesa,” Ms. Sontag told the children to return to their table. It was time to discuss their observations. “A ver, ¿un cambio?” Had they observed a change?

In the flutter of response, the children noted that the mealworms had changed. There was some speculation as to what...
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the new creature might be. Sammy stuck to his idea of a lightening bug, clarified by Ms. Sontag to be a luciérnaga. None of the children were able to guess what the insect was, so Ms. Sontag finally announced that it was an “escarabajo” as she wrote the word on the board.

“Maestra, ¿que son en inglés?” (Teacher, what are they in English?) someone inquired.

Ms. Sontag wrote the word “beetle” on the board next to “escarabajo.” Then she directed the children’s attention back to the chart labeled “Cambios” (Changes) taped to the front board. Beneath their previous recorded observations the class decided to add the sentence “Hay un escarabajo.”

Ms. Sontag pressed the conversation forward to a more comprehensive discussion of the changes that had transpired.

“Entonces, niños, tenemos escarabajos, pero cuando empezamos, ¿qué tuvimos, qué tipo de insecto tuvimos?” (So, children, we have beetles, but when we began what did we have, what type of insect did we have?)

“Gusanos de harina,” (Mealworms.)

“Gusanos de harina,” Ms. Sontag repeated and then continued.

“Luego cambió, ¿no? ¿Quién se acuerda?” (Then it changed, to what? Who remembers?)

“Crisálida.” (Crisalid)

“Crisálida,” repeated the teacher. “Y ahora tenemos ...” (And now we have …)

“¡Escarabajos!” (Beetles!) chorused the children.

“So, vamos a considerar el gusano de harina como el bebé. La crisálida es como un adolescente, ’teenager’. Luego, el escarabajo es el ...” (Let’s think of the mealworm as the baby. The chrysalid is like an adolescent, teenager. So the beetle is a …)

“Mamá o papa.”

“Mamá o papá, ¿qué es otra palabra para una persona grande?” (Mommy or daddy, or what is another word for a big person?)

“Madre o padre.” (Mother or father.)

“Adulto.” (Adult.)

“¡Adul” “Adul!” Ms. Sontag echoed the response with delight as she wrote.

After an extended conversation it was time to mark the latest development on individual calendars. The words “crisálida,” “gusano de harina,” “escarabajo,” and “adulto” joined the never-to-be-forgotten “ninfa” on charts throughout the room.

Cleanup was swift; it was time for lunch. One of the children asked Ms. Sontag what was on the menu.

“Un escarabajo para el almuerzo ... ¡con un poquito de chocolate!” (A beetle for lunch ... with a little bit of chocolate.)