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# Developing Multiple Literacies in a Website Project

Lucy K. Spence

Technology can help students expand their repertoire of literacy practices by linking home and cultural knowledge.

**A**s new technologies enter our lives and schools, we expect students to come to school with some computer ability. What happens when they do not? In this article, I show how Jacky (pseudonym; pronounced Yah-kee), already literate in two languages but with little access to new technologies, developed computer literacy through a school-sponsored website project that linked technology to home and cultural knowledge.

## Becoming Jacky

Jacky (her chosen screen name) was one of four students who participated in a website project in an urban elementary school with students who were 92.5% Spanish-speaking and 100% eligible for free or reduced-cost meals. Jacky moved from Mexico with her family at age 5 and participated in this project at age 11. She was a novice computer user, needing rudimentary skills such as capitalizing letters using a keyboard.

Jacky's group volunteered to design a website for entry in a competition. I was the school's Library Literacy Specialist and volunteered to coach the website team after school in the media center. We started out using three computers in the media center and as we progressed we acquired a scanner, portable zip drive, and digital camera. Choosing a screen name was one of the first tasks the students took on, and I asked them all to draw a character to go with their screen name. Jacky drew a girl in a traditional Mexican dress. The other team members were boys who named themselves Charro, Jet, and Red Toro.

The boys drew a Mexican horseman, a futuristic warrior, and a bull, respectively.

## Funds of Knowledge

I encouraged the website design team to draw upon their funds of knowledge (Moll, 1992; Moll, Amanti, Neff, & Gonzalez, 1992; Moll, Saez, & Dworin, 2001; Moll et al., 1990) to envision, plan, explore, and implement the website project. Funds of knowledge refer to Moll's research on the ample resources of students and their families, which can be drawn upon for classroom instruction. These resources include cultural practices, knowledge, skills, and information shared in the social networks families use to function in their day-to-day lives. When these funds are acknowledged and used, they enrich curriculum for bilingual students who often receive an impoverished curriculum or cultural tracking based on a deficit perspective of student capabilities (Valdes, 2001; Valenzuela, 1999). To draw upon family funds of knowledge, I gave the four students a survey adapted from Vasquez, Pease-Alvarez, and Shannon (1994), which they took home and discussed with their parents (see Figure 1).

Using the completed family surveys, the students discussed their responses while I summarized their overall points on a blank survey. We then reviewed the discussion summary together looking for common interests and knowledge. Student survey responses overwhelmingly related to Mexico, a clear commonality in their interests. For example, in answer to a question on interests or abilities in the family, one student described his family's involvement in "Baile Folklorico" (traditional Mexican folk dance). The survey also revealed interests unrelated to Mexico, such as playing cards, monopoly, and hide-and-go-seek. From the group discussion, "Mexico" and "games" emerged as common interests and knowledge.

**Figure 1**  
**Survey Given to Students and Their Families**

**Student and family interest survey**

**Cuestionario acerca de los intereses del estudiante y su familia**

What do you and your family enjoy doing in your spare time?  
¿Qué hacen tú y tu familia en el tiempo libre?

What abilities and talents do you and your family have?  
¿Qué habilidades y talentos tienen tú y tu familia?

Tell me about your family background. Where do you come from?  
¿Dime acerca del origen de tu familia. De dónde son tú y tu familia?

What are your family's favorite stories, jokes, or sayings?  
¿Cuáles son las historias, bromas o dichos favoritos de tu familia?

What kinds of things does the family talk about?  
¿De qué clase de cosas habla tu familia?

Does your family participate in activities you feel are educational (i.e., folk dance classes, scouts, catechism)?  
What are they?

¿Piensas que tu familia participa en actividades educativas (ej., clases de baile, scouts, catecismo)? ¿Cuáles?

Note. Adapted from Vasquez, Pease-Alvarez, and Shannon (1994).

The students debated between the two areas, “Mexico” and “games,” for their focus, and eventually agreed to title the website “Mexican Heritage.” Using ideas pulled directly from the discussion summary, the student focus clearly shifted from individual family-based responses to group topics for their website. I demonstrated how to use a flowchart to organize their ideas and visualize how the website pages link together. The group brainstormed six webpages, which changed slightly over the course of the project but eventually were titled Language, Folklorico, Jokes and Stories, Aztecs, Travel to Mexico, and Food. From the survey and discussion they identified specific information they wanted to include such as *La Llorona*, a well known folktale of the ghost of a woman who drowned her children, and *Pepita*, which is the name of a character in a series of jokes. The survey and discussion provided a wealth of material to begin researching, designing, and writing. This work defined the general structure of the website and also easily allowed for continuing changes and additions as the project progressed.

## Jacky in Spanish and English

Through discussing the survey questions Jacky's mother mentioned that she was descended from what

she referred to as “Indians.” Her mother mentioned that her ancestors were Yaqui [yah-kee] a people native to the state of Sonora in Mexico. Jacky subsequently took this as her screen name and spelled it “Jacky.” Eventually Jacky found a document with the word “Yaqui” and made the connection with the information her mother had provided.

Charro and Jet were also born in Mexico. Red Toro was a second generation Mexican American, born in the United States. Although the team members shared Spanish as a common language, they used mainly English as they worked on the website. However, they used Spanish as needed to clarify their ideas. For example, as the students discussed traditional stories for inclusion in the website, they reminded one another of details and often told one another these stories in Spanish as they worked together to remember all the salient parts. Jacky also used Spanish when working on the website's Language page. I spoke very little Spanish, but a second coach, Ms. Mendez (all names are pseudonyms), was bilingual. Team members and teachers used both languages to negotiate shared understandings during the research and construction of the website, providing a context for using and valuing Spanish.

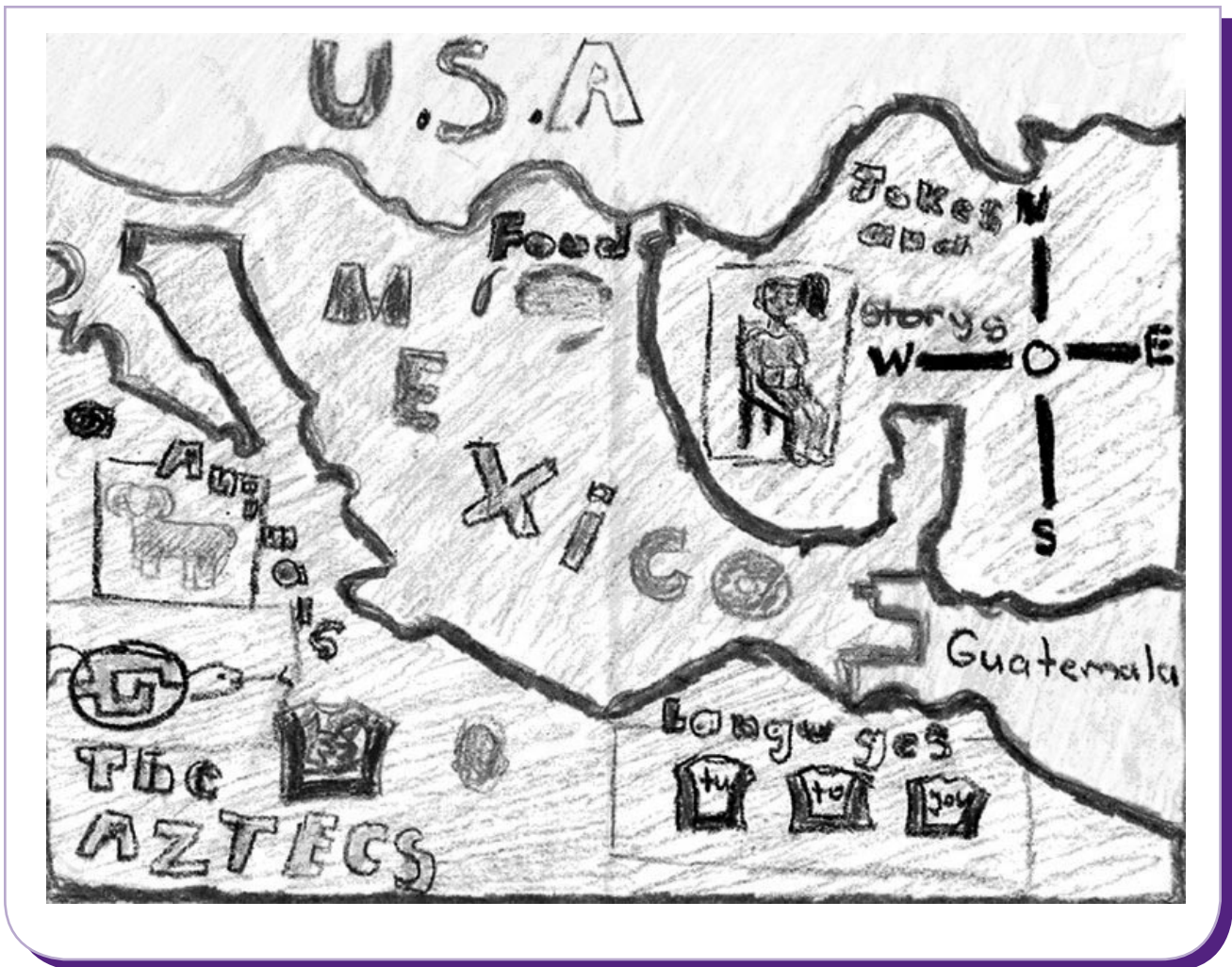
## Mexican Heritage Homepage

The team members divided the work among themselves according to their interests. Jacky chose to make a map of Mexico for the homepage, write a fictional story for the “Jokes and Stories” page, and make a “Language” page, all of which involved accessing numerous and varied funds of knowledge. Jacky first drew a map in colored pencil, using ideas from books, other team members, and the team’s flowchart. She then tried unsuccessfully to reproduce it digitally using the mouse as a pencil in a software application.

Ms. Mendez arranged for a local Web designer, a 21-year-old Latina named Delia, to attend one of our meetings. Delia suggested we scan Jacky’s drawing

and copy the image into the Web authoring software. Delia also showed the team how to use the software’s website for information on tasks such as making buttons to link the homepage with other pages. Creating the homepage clearly required the design team and coaches to draw upon funds of knowledge in networks of community members. Thanks to Delia, Jacky began to scroll, insert, select, browse, enter text, and type a URL. She learned about dialogue boxes, options, drop-down menus, and the software’s website. Throughout this work, she used English, Spanish, and the language of technology. Jacky’s use of these resources resulted in the realization of her vision for a homepage (see Figure 2).

Figure 2  
Jacky’s Homepage Drawing





## Jacky Writes Fiction

Once the team created the homepage they began adding the remaining pages using basic computer skills along with reading and writing. Although the Web authoring software was challenging, the students gradually developed the ability to use it. The Web authoring software was a common, professional, full-featured package supplied by the school district technology office. The software's capabilities vastly exceeded the capabilities of the coaches and team members. Ultimately, their experiences with the software allowed them to enter the world of website development and make tentative explorations into using it. The team would need multiple exposures over an extended time to more fully understand the software while continuing to use familiar literacy practices such as reading and writing.

Planning and developing the website pages involved the team members in creative, abstract, and complex thinking. They did some of this thinking at home and wrote ideas in their project notebooks. Jacky wrote a fictional story in her notebook for the "Jokes and Stories" page. The story, "Maria's Adventure," is about a Mexican girl who learns to cope with her parents' decision to move to the United States. As shown in the following excerpt, it is clear that Jacky drew upon cultural and linguistic knowledge using dialogue from her home setting.

The next morning she woke up knowing that her mom would call her up soon. She heard a voice calling her "Get up Maria it's time for you to pack your bags." When she heard her mom's voice she growled with anger and acted asleep. Her mom knocked silently on Maria's door and told her, "Ay! You still think that acting asleep thing will work! Well too bad for you I already know that trick."

Jacky demonstrated linguistic skill in creating an authentic piece of dialogue that took place in Mexico. Her English writing retained its Spanish language flavor, yet translated to the English-speaking target audience. Modeling her story mother on her real mother, Jacky necessarily translated Spanish to English as she wrote the dialogue. As a result of her biliteracy and cultural knowledge, "Maria's Adventure" included detail and authentic dialogue drawn from Jacky's relationship with her mother.

## Jacky Teaches Spanish

Another of Jacky's contributions to the website was the "Language" page (see Figure 3). It consisted of two parts titled, "My A B C" and "Greeting Words." The ABC page presented the Spanish alphabet followed by pronunciation. "Greeting Words" taught words and phrases such as *hola* (hello) and *¿Cómo estás?* (How are you?) To create these pages, Jacky used her Spanish and English literacy knowledge, contributions from her teammates, and language dictionaries.

Jacky had the benefit of a lifetime of speaking Spanish as well as bilingual education in kindergarten and first grade to build a foundation in Spanish literacy. She supplemented this knowledge with language dictionaries from the school media center, which she studied to create a pronunciation guide. As she worked on the "Language" page, Jacky read her drafts to the other team members to gain their input. Once this work was completed, she used her growing knowledge of computer literacy to type the page, create a button, and link from the homepage to the "Language" page. Jacky drew upon considerable linguistic resources for this task and used her bilingual power and voice (Freeman & Freeman, 1997) to teach Spanish through her "Language" page.

## Multiple Literacies in School and the Community

Jacky's work on the website shows how she used multiple literacies within a complex project. Multiple literacy practices include traditional literacies such as English reading and writing but also include using additional verbal languages, computer-related discourse, Internet searches, and skill in handling devices such as the mouse, keyboard, scanner, and printer. Literacy practices extend over a broad range of communicative modes in today's world, including dance, music, drawing, video, and audio technology (e.g., Berghoff, Egawa, Harste, & Hoonan, 2000; Flood & Lapp, 1998; Richards & McKenna, 2003). Literacy develops throughout a person's life, and multiple languages grow and develop if they are used in purposeful activity. Jacky's story shows how computer literacy develops with practice and use. Students such as Jacky who do not have home access to computers, scanners, digital cameras, and so on may not have the chance to develop computer literacy unless

**Figure 3**  
**Jacky's "Language" Page**

My A B C			
–			
a (ah)	h (at che)	ñ (ehn yeh)	u (ooh)
b (beh)	i (eeh)	o (oh)	v (veh)
c (seh)	j (ho ta)	p (peh)	w (doh bleh ooh)
d (deh)	k (cah)	q (cuh)	x (eh kis)
e (eh)	l (eh leh)	r (erre)	y (ee gree eh ga)
f (eh feh)	m (eh me)	s (eh seh)	z (seh ta)
g (jeh)	n (ehn eh)	t (teh)	

Greeting Words		
Hello!	Hola	(Oh la)
Good morning	Buenos Días	(Bwen ohs dee ahs)
How are you?	¿Cómo estás?	(koh mo es tahs)
Good bye	Adiós	(Ah dee ohs)
See you later	Hasta luego	(Ahs tah loo eh go)

they are given access to as well as purposes for using technology.

Through the website project, Jacky used both cultural knowledge and biliteracy to develop a character and create a screen name. Her choice of screen name not only reflected her background but also connected it to her life in the U.S. Jacky also used her cultural knowledge to create a fictional story in English, presenting the Mexican immigration experience to a U.S. audience. By creating the language section, she taught simple Spanish words and pronunciation, thereby sharing her linguistic knowledge with others. In addition, the entire design team benefited from funds of knowledge in local community networks. A local Web designer showed the team how to find information for building their website, and the team began to use words such as *mouse*, *scan*, *button*, *link*, *program*, and *website* with growing understanding.

All of the students' families became interested in the website project. We had many visitors to our meetings and enriching contributions to the website from the greater community, including Charro's Mexican dance partner and instructor who performed while

Jet took photos and video for the website. All the families dropped by the media center, with Jacky's family visiting frequently. Her mother and sisters came "to see Jacky's map on the computer" and watched with delight as it appeared as an Internet site. Jacky's, Charro's, and Jet's extended families came for a celebratory dinner in the media center, and afterward the team showed their families how they worked to create the website. The students' involvement in the website affected their immediate families and the surrounding community. It introduced and involved those who were not computer users in the website project, linking computer technology and the Internet with the students' families and the local community.

Time for this project was limited and much of it involved planning, designing, and learning about the software. The project was supplemental to the school day, so the students worked on it at home or at meetings after school. Ultimately, the students did not win the competition. However, when the website was published they realized their goal of reaching a worldwide audience with a message of cultural knowledge and pride.

## Suggestions for Practice

Jacky exemplifies how funds of knowledge can be powerful instructional assets leading to the expanded literacy practices necessary in a technology-based, globally connected society. This suggests several ideas for building and expanding students' literacy practices.

- Tap into the knowledge of families and community members. Encourage students to talk with their families about ideas for their projects and encourage family members and community members to contribute their expertise.
- Encourage and extend the use of multiple languages with students who have these valuable resources.
- Engage students in meaningful and purposeful activity. Let students generate their own ideas for their project and negotiate together to decide on the project theme, design, and content. Make sure there is an authentic audience for their project.
- In addition to the students' families, draw upon community networks of people who can help with the project.
- Provide material, technological, and human resources for students to draw upon in their learning. Advocate for your students to obtain needed resources so that students will have access to the technology needed for developing new literacies.

Students without access to a home computer can draw upon their multiple literacies (such as drawing, bilingualism, or reading and writing) in combination with literacies accessible via school and community technology resources. Homes and communities provide funds of knowledge for using multiple literacies.

Educators should look closely at the knowledge and linguistic resources students already have and build upon them. Exploring new technologies will expand their repertoire of literacy practices.

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