The Migrant Educational Technology (MET) program is an after-school program that introduces Latino migrant families in Detroit to basic computing and educational software applications, with the goal of supporting students' schoolwork and improving their academic achievement. The 1998-99 MET program was organized into three phases. In the introductory qualifying phase, migrant students had to meet academic, attendance, and citizenship requirements; maintain academic progress; and have a positive attitude toward peers and teachers. In the second phase, 50 qualifying students brought their families to after-school work sessions, and 22 families attended 60 hours of sessions and qualified to take home a computer and printer. In the third phase, these families received technical support for home use of the technology tools. Pedagogical models used in the program were project-based learning and participatory pedagogy. In a study of 14 families that regularly attended the program, critical discourse analysis of parents' conversations and talk during work sessions revealed several key discursive program features that shaped a collective, participatory orientation among participants. These included the framing and reframing of "driving questions" (the group's central concerns and goals), acknowledgement of the group's shared experiences, and the facilitator's use of inclusive, equitable language. The importance of social organization and discourse to promoting migrant families' program participation is discussed. (SV)
Making Connections: Building Family Literacy through Technology

BY ROSARIO CARRILLO

After-school programs have received public support for various reasons in recent years. The federal government and law enforcement agencies view after-school programs as safe havens for latchkey kids. In the report Safe and Smart: Making After-School Hours Work for Kids, U.S. Attorney General Janet Reno and Secretary of Education Richard W. Riley stated that juvenile crime and injury could be significantly reduced if the estimated five million latchkey children were placed in after-school programs. As a result, federal government funding earmarked for after-school programs increased by several hundred million dollars toward the end of the Clinton administration. Many local communities also have embraced

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after-school programs as opportunities to provide students with homework help and other educationally enriching extracurricular activities.³

While it makes sense to supply students with additional learning resources in after-school programs, it is less certain how these programs should be designed and enacted. In fact, a heated debate exists in the field of family literacy about how to offer accessible school-based literacy practices to students and their families who are not part of mainstream society due to their home language and ethnicity. Indeed, Lisa Delpit and, more recently, Cynthia Ballenger have highlighted the challenges educators face in honoring and building on minority students' and parents' home-based literacy practices while, at the same time, introducing school-based literacy practices. Many after-school family literacy programs are designed to help close the gap between desirable school-based literacy practices and home-based literacy practices. Olga Vasquez, Lucinda Pease-Alvarez, and Sheila Shannon describe these types of programs as operating under a difference perspective. The difference perspective holds that schools try to replace minority language and cultural backgrounds with White, middle-class, mainstream language and culture. The language and cultural backgrounds of minority students and their parents are seen as interfering with the system. But what would a program look like if language and culture were viewed as resources? What if these resources became a foundation for a generation of new understandings in a highly technology-embedded world⁴

This chapter summarizes key pedagogical design and discursive


features of a family literacy program, the 1998-1999 Migrant Educational Technology (MET) program, that made use of technology tools.

The MET Program

The MET program is an annual after-school program that introduces Latino migrant families to basic computing and educational software applications. Its goals are to provide the families with resources to support students' schoolwork more effectively, increase participants' understandings about basic computing and educational applications, and improve students' school achievement. MET is part of a larger migrant education program at the Detroit Bilingual Education Office, which provides extra support to migrant students at high risk of poor academic achievement due to migratory patterns and low economic and social stability. The Detroit Bilingual Education Office created the MET program specifically to address the persistent disparity in technology access between Latino households and majority-group Americans.5

The MET program is aligned with several districtwide goals: (1) to engage parents for the purposes of mobilizing resources, promoting positive attitudes and behavior, strengthening the enabling role of families, and ensuring student learning; and (2) to integrate technology throughout the curriculum, infusing it in the delivery of services.6

The 1998-1999 MET program was organized into a preliminary qualifying phase, a work-sessions phase, and a home-based computer use phase. In the first phase, migrant students had to meet academic, attendance, and citizenship requirements to borrow a computer to take home. The students also had to sustain progress in all classes, have exceptional attendance, be punctual, collaborate with others, and have a positive, productive attitude with their peers and teachers in all school activities. Students meeting the preliminary requirements could take their families to work sessions on basic computing and


educational applications. The software programs included KidWorks Deluxe, MayaQuest, and a MECC program on fractions.

Fifty participating families qualified to attend work sessions in the fall of 1998. Infrastructure problems plagued the school district and considerably delayed the start; nonetheless, 22 families attended work or make-up sessions for up to 60 hours and thus qualified to take home a computer and a printer. The program continues to provide the 22 families with technical support for home use of the technology tools.

**Pedagogical Design Features**

The two pedagogical models used in the 1998-1999 MET program were project-based learning and participatory pedagogy. These models positioned participants as co-constructors of the curriculum.\(^7\)

Project-based learning works well in combination with a participatory model because of five features that help structure knowledge around students' interests: (1) a driving question meaningful and broad enough for students to pursue subquestions as part of an (2) extended inquiry aided by (3) collaboration, (4) cognitive learning tools, and (5) artifacts. Artifacts allow learners to demonstrate their current understanding and receive feedback from the teacher and other learners. One artifact every family created was a Web page, which showed their understanding of word processing software and hypertext markup language (HTML) as well as their goals and sense of self.

A central feature of participatory curriculum is to work away from a transmission model of education toward multilateral directions of knowledge construction. A curriculum guide developed by Elsa Auerbach offers excellent advice for making students' economic, political, and social interests part of the classroom content.\(^8\)

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MAKING CONNECTIONS: BUILDING FAMILY LITERACY THROUGH TECHNOLOGY

It is useful to draw on the interests of families, especially migrants, in planning and doing instructional programs. In her book _Con Respeto_, Guadalupe Valdés writes that family literacy programs may meet short-term goals of family-school involvement efforts but have a detrimental effect on long-term family goals. Designers of family instructional programs know little about the effects of changing the routines and activities for entire families. For instance, family instructional programs can have a negative impact on how, when, and for what reasons mothers talk to their children. Mexican advice, known as _consejos_, might well give way to children telling stories and playing literacy games. The child's mother usually tells _consejos_ to her children in private, person to person, and in loving trust. _Consejos_ are not written or codified, as they depend on an intimate relationship between mother and child. Echoing Valdés's concerns, Timothy Shanahan and Flora Rodriguez-Brown state, "Family literacy programs raise . . . ethical problems because of their attempt to change parent values with regard to their children's education, and parent-child relations such as the use and sharing of literacy among parents and children." Participatory family programs have the potential to address these concerns because of a central design feature that directly involves students and their parents in the construction of the program's goal, values, content, and methods.9

Given that design features alone cannot guarantee a truly participatory orientation among students and their families, what else should be considered? Educators must pay attention to both the pedagogical design and discursive features of the program. The latter can be understood by examining patterns in the discourse of the program's participants.

MET Participants

I had the opportunity to be the facilitator of the 1998-1999 MET program. I used features from both the aforementioned pedagogical models to position all participants, including myself, as co-construc-

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tors of knowledge. I considered my experiences as an educator, a Chicano/Chicana Studies undergraduate, and a Mexican immigrant. At the time of the MET program, I was credentialed in California and Michigan with bilingual endorsements and completing a second year as a doctoral student in education technology. I also had three and a half years of teaching experience and two and a half years of professional development experience. As a teacher, I had worked closely with Latino parents, who were instrumental in various roles—as classroom volunteers and family science workshop participants. I designed the MET program based on my first-hand knowledge of how parents could contribute to a learning environment. I shared language, gender, and immigrant struggles with the MET families. I am a first-generation Mexican immigrant from a poor working-class background. My mother did not finish the third grade, and I was the first female in my family to go to a four-year college. In designing the program, I wanted to create a space where the families and I could address our shared sociohistorical backgrounds. These common foundations are important considerations in designing migrant family literacy programs.

All 22 families were of Mexican heritage and spoke Spanish at home. They lived in the southwest section of Detroit called Mexican Town. Mexican-owned businesses in this community include bakeries, music and gift shops, and restaurants, all of which cater to the local Latino population as well as tourists. Of the 22 families, the 14 that participated regularly in the work sessions consented to take part in the study.

The discourse analysis conducted on all the participants was based on a data set that included 44 hours of audiotape and videotape, field notes on 18 work sessions, copies of parents' printed work, conversations with 14 parents, and copies of the facilitator's handouts. The text excerpts in this chapter appear in English and Spanish when relevant; otherwise, only the English version is provided.

**Discursive Features of the MET Program**

Drawing upon methods of critical discourse analysis, the MET research study found several key discursive program features that reflected and shaped a collective, participatory orientation on the part of the participants. These included the framing and reframing of the
Driving questions, acknowledgment of the group’s shared experiences, and the facilitator’s use of inclusive language.

Driving Question (DQ)

At the beginning of any migrant literacy program, it is important to determine any concerns the parents have about their children’s schoolwork. At MET, one mother said she wanted to find a tutor who could help her child read better. Another mother expressed concern that her son had been retained a year because the teacher felt he was not reading at grade level. A third mother asked which language should be used at home to support her child’s schoolwork.

These concerns raised a big question: “How can we improve how our students read and write?” In the terminology of project-based learning pedagogy, this is a driving question that organizes subquestions and that supports extended sustained inquiry about a day-to-day concern of the learners. The participants began a cycle of activities that allowed time to learn new technologies while addressing concerns about their children’s academic progress. The participants were given practice time to learn a new software tool, then were brought together as a group to discuss works they had created with the tool.

The new tool was introduced in a teacher-directed mini-lesson in a whole-group format. The participants used the software to explore various writing genres, such as fictional and nonfictional short stories. By developing and sharing various written pieces, the participants appropriated different ways of supporting their children’s reading and writing proficiencies. The cycle of activities left room for several discussions about Spanish-English language use and about bilingual and mainstream teachers in the local community. The flexibility in the design of the MET program also created a space in which participants could challenge the selection of software applications. In fact, with regard to the software MayaQuest, several parents made it clear they preferred their children to learn about Aztecs rather than Mayans because of the wide influence of Aztecs on Mexican society and culture. The parents’ sentiments about the software selection was invaluable in making the technology tools as culturally and linguistically responsive as possible.

During the cycle of activities, the parents pointed out that I had improved my Spanish reading and writing. Mrs. Gonzalez, for example, made some edits to an evaluation sheet I had drafted. The evaluation sheet had been designed to get feedback from participants at the end of each work session. The excerpt below contains the exchange about Mrs. Gonzalez’s edits.

**How to improve the facilitator’s Spanish literacy.** The session began with a directed lesson, in which the whole group reviewed how to save a document on a diskette and on the desktop. Afterward, participants worked in small groups on school projects the students had brought. Midway into the small-group work, Mrs. Gonzalez arrived at the session, and the following exchange took place:

Mrs. Gonzalez: Hice unos cambios. [I made some changes (handing Rosario a document).]

Rosario: Oh, esto se necesita poner a máquina. [Oh, this needs to be typed (smiling).]

Mrs. Gonzalez: Sí. Yo nada más lo traje. Yo dije que tú lo vieras y después que los cambios se le hicieran. [Yes. I just brought it. I said that you (informal) should see it and then later the changes could be made.]

Rosario: Sí. Le gustaría hacer los cambios? [Yes. Would you like to change it?]

Mrs. Gonzalez: Sí. [Yes.]

Rosario: OK. Vamos al centro Andrades porque aquí ya no hay más computadoras. [OK. Let’s go to the Andrades’ Center (main office) because there are no more computers available here (in the MET computer lab).]

Mrs. Gonzalez: OK. [OK.]

The tone of the exchange was friendly. I was pleasantly surprised that Mrs. Gonzalez had taken the initiative to change an official document. She suggested altering the wording to align with language used in Mexico City—a language similar to standard Castillian Spanish and familiar to most of the participants. For example, she changed my translation of “workshop” from taller to sección, “fair” from más ó menos to favorable, and “poor” from mal to fatal. The new revised evaluation sheet was used henceforth.
Other parents and students also helped me remember or articulate words in Spanish. All my formal education in the United States had been in English, save for a couple Spanish courses, so it was no surprise I needed to improve my Spanish literacy. Migrant parents often provide this type of language expertise to staff, educators, and administrators. Likewise, the parents and their children improved their reading and writing abilities in Spanish and English.

**How to improve the mothers' and children's literacy.** One day, the participants composed and typed statements about their families that were to be posted on the MET Web site. In their statement, Mrs. Huerta and her son Jose wanted to thank Mr. Buenavista, the director of the Detroit Bilingual Education Office, who had initiated the MET program. Both mother and son were unsure how to spell the director's name. Jose asked me how to spell "Buenavista."

Jose: Buenavista goes with the little "v?"

Rosario: First with the big "b" then with the little "v" like in "Victor."

Jose: See, mom, I told you.

Mrs. Huerta: With the big one?

In addition to assisting the students with reading and writing, the program helped parents and students improve their Spanish and English literacies. I suggested changing the group's driving question to "How can we improve how we read and write?" Mrs. Villa, one of the most active parents in the program, had been taking ESL classes for adults. She had made conscious efforts to learn English in the MET program by writing notes during teacher-directed lessons and asking for specific translations. She responded to the suggestion of the new driving question by stating, "Yes, truly. You (the facilitator) are learning Spanish, and we are learning English."

These developments in the design of the learning activities demonstrate the participatory orientation of MET. The parents' subquestions fed the first driving question of the program, the cycle of activities, and the content. This move created a space in which to negotiate technology-enabled learning activities and the parents' ways of knowing, language, and interests.

The next development was to change the original driving question to "How can we improve how we read and write?" We, the
parents and myself, placed ourselves as learners like the students. The
program was not operating in a linear, unidirectional fashion. I was
not apprenticing the families into the world of educational computing
solely for the benefit of the students' literacy development and
improvement. All parties were using the technology tools and the
learning cycle to develop various aspects of our literacies. This
participatory, inclusive orientation positioned parents as co-construc-
tors of the sessions' agendas, how the agendas were taken up, and the
methods used to carry out the agendas.

Mrs. Gonzales brought up the need to help me develop Spanish
literacy. Mrs. Huerta and her son took the opportunity to develop their
Spanish literacy. Lastly, Mrs. Villa contributed the notion that the
parents were developing their English literacy.

Developing all the MET participants' literacies (including my
own) became part of the program's larger agenda via the new driving
question. The entire group was invested in developing its literacies, a
testament to the participatory orientation of the program. Moreover,
the parents' initial concerns about their children's reading and writing
drove not only the initial development of the cycle of the activities but
the content and purpose for the cycle. As such, the program addressed
the parents' ways of knowing, "funds of knowledge," interests, and
languages.11

These developments, moreover, speak to the program's collective
orientation—a sense of affiliation among the participants and myself
along shared goals, values, and struggles. We all tried to become
bilingual, which formed a bond among participants.

**Group's Shared Experiences: A Latino Esprit de Corps**

One session began with a discussion of MayaQuest, leading to a
rich conversation about other topics, including the effectiveness of
local bilingual and mainstream teachers. A second-year high school
student generated a list of recommended teachers in response to a
father's request. Some families came in a bit late, and the participants
were asked to introduce themselves:

11Luis C. Moll and others, "Funds of Knowledge for Teaching: Using a Qualitative
Approach to Connect Homes and Classrooms," *Theory into Practice* 31, no. 2
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Mrs. Gonzalez: I am Consuelo Gonzalez. I have four children. I am here in the program. Sometimes I come. Sometimes I don't because, unfortunately, I work. Well, fortunately, I work (mild laughter). Until 5:30 or 7:00. So, sometimes I can't come. But, well, I am here today (applause).

Rosario: I want to add that Mrs. Gonzalez works at BEING (a community center). At the center . . . well, what if you (addressing Mrs. Gonzalez) share with us something about the center?

Mrs. Gonzalez: Well, BEING is a program that was started about 30 years ago to help Latino people. There is training for new better-paying jobs. We are nonprofit. We are not about earning money. The city gives us money in order to offer our services. Well, that is all (applause, as she began to sit down). And I work with just numbers (standing up again). Another thing that I want to tell you. There I took training for computerized accounting. And I asked my teachers why I was the only Latina. The majority are of color. Well, it is not that I am discriminatory or anything. But, it seems strange to me that we are in a Latino community. BEING is in this community. Why are there only two or three Latinos? They told me that it is because Latinos are not well-trained.

Mrs. Vallejo: “Eh” (a Spanish marker for affiliation or agreement).

Mrs. Gonzalez: I think that, no, there are a lot of people that want to. Well, for x number of reasons, the Latino people could not continue with their studies. But there are people like yourselves, ourselves, that are here—we want to continue studying. Well, we were invited to improve upon ourselves, to graduate from high school (addressing the students) or, if not, from the university. Or us like mothers. Me, like a mother. We think sometimes that it is too difficult. But I, too, took the training. And I thought it was much too hard. And I was scared. At that time, I did not know much English. I still don't know much English. But, I can tell you with much pride that I came out with the best . . . ahumm . . .

Rosario: Degree?

Mr. Inez: Average?

Mrs. Gonzalez: Average.

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Rosario: Oh.

Mrs. Gonzalez: And this, for me, was a big source of pride, to demonstrate to the teachers that we can. No? Because, on many occasions, they say that we only graduate from the first year of elementary school. It is not true. There are lots of times that people do (advance further in their studies). But we can continue to prepare ourselves. So, there is that training program. And, to me, it seems like a good thing because people with few resources (money) can take the training. Even if they don't have something to move with, they (the center's officials) pay for the training.

Mrs. Vallejos: Then why don't Latinos go to that program?

Mrs. Gonzalez: That is what I have told my children—that the Latino community does not go to that program. But it can. I will bring you (the MET participants) some bulletins so you can see when they (training sessions) start. They also have classes for doctor's assistant. They also have training in the morning and in the evening.

Mrs. Vallejos: That is very good.

Mrs. Gonzalez: And right now, they (programs like the MET program and the BEING center) are like a lift for us (MET participants) so that we can begin to train ourselves. Right now, jobs are requiring that people speak at least two languages. Take me, for example, I like my job. It is a five-minute drive from my home. But I sent out my résumé and now a company wants to hire me for exporting and importing with Mexico, with Latin America. So, it is very nice, isn't it? To show them that we can and that we, too, are intelligent. And there is BEING. There you can go.

Mr. Villa: Thank you.

The collective orientation was, in part, a function of the shared goal to develop everyone's literacies in two languages—Spanish and English. We shared awareness about the associated struggles in learning both languages but particularly English, our nonnative tongue. These struggles have shaped the experiences of the majority of the Latino community in Detroit. Mrs. Gonzalez's tone speaks to how the
design and discourse of the MET program reflected and shaped a collective orientation on the part of the participants.

Mrs. Gonzalez referred to "us" several times in her statements. "Us" is herself and the rest of us in the MET program. This group positioning signaled solidarity along cultural and linguistic lines. Her reference to the official staff of the BEING center and the MET program as "they" illustrated she had not yet fully accepted her position as co-constructor of the MET program, nor of the BEING center where she worked. Her need for "training" showed she had accepted the mainstream approach that knowledge and skills are acquired in a transmission mode rather than in a constructivist, participatory, and collectivist mode. However, her rephrasing, "we can train ourselves," demonstrated an awareness that she and the other members of the program had the skills necessary to take on new knowledge and mold it into skills useful in mainstream society.

Specifically, Mrs. Gonzalez acknowledged that the "two language" advantage the MET participants had, coupled with additional training, could increase employment opportunities on both sides of the United States-Mexico border.

Still, Mrs. Gonzalez's phrase "demonstrate to them that we can" explicitly stated the collective orientation of the MET participants. She spoke about the group's shared struggles as Latinos/Latinas in a society that often has labeled migrant and immigrant Spanish-speaking urban dwellers as disintegrated and socially and ethically decayed. These collective perspectives played a crucial role in how the group focused on and developed its literacies and technology skills as well as its sense of power as a Latino group in the local urban community.

Facilitator's Discourse

I drew on several oral resources to decrease the formal distinction between myself as a maestra, or teacher, and the parents as learners. First, I allowed parents to call me by my first name. We never discussed the use of formal and informal referents, but it was clear from the beginning that parents should address me informally. This informality helped set the program's participatory orientation.

Second, I consciously used singular and plural forms to address parents when their self-esteem was at stake. On one occasion, I asked a parent about a missing document. Instead of using a singular "you," which would have placed direct responsibility on the parent, I asked, "de casualidad lo horraron ahí en el desktop?" ("By chance, did you (plural) save the work on the desktop?"). My use of plural subject forms was an attempt to maintain parents as co-constructors of learning. I tried to position them not as individual learners making mistakes but as members of a group collectively responsible for a task.

Third, I drew upon tag questions as a linguistic resource. To ensure participation by parents and students in decision making about the content and methods of the program, I often added a tag question to my suggestions. For example, in a discussion where a parent had challenged my choice in a software program, I added, "Are the rest of you in agreement?" This tag question opened the discussion for the participants to dissent or pose alternative options. The following excerpt about providing the families with extra computer time includes an example of a tag question:

Rosario: That is the thing. We have little time left. We could go Saturday after the class. Are you in? What do you say?

Tag questions are intended to invite ongoing changes, as did the word "draft" on my handouts. I used conditional prefaces in the same way. In a discussion about the MayaQuest program, I asked, "We could look at some other software programs, like about pyramids or about the oceans?" I prefaced this question with the unstated conditional phrase "if you would like."

Fourth, I regularly used low subjective modality, which Norman Fairclough describes as the degree of affinity given to a statement.° Hedging, for example, can be an effective use of low subjective modality.13

One day, I addressed a mother who was sitting alone during a directed lesson on a new technology tool: "You (formal) know what I am thinking, Madame? That maybe your son would like to see this." I suggested the whole family would be more successful at using the

°Fairclough, Discourse and Social Change, 142.
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tool at home if the mother and son worked together in the work session. Low subjective modality is evident in the words “I am thinking” and “maybe.” Had I said, “It would be best if your son joined you,” my assertiveness could have intimidated the woman. The words “I am thinking” and “maybe” were more inviting.

Conclusion

Several lessons emerged from the pedagogical design and discursive features of MET. When enacting participatory programs for migrant families, pay particular attention to the program’s social organization and tone of the discourse. Participatory programs call for equity in terms of voice, that is, providing space for all participants’ ways of knowing and associated funds of knowledge, language, and interests. It is important to monitor the use of formal referents, tag questions, conditional prefaces, and low and high subjective modality. Together, these efforts shape participation that can support growth in literacy and technology skills.

Fairclough cautions that participatory discourse must be equitable. Business management, in some instances, has employed similar participatory models to make assembly line workers feel like they have a voice. In the end, management, not the workers, still sets the agenda, initiates action, and carries out the action. Colin Lankshear warns that progressive pedagogies can be a dangerous rhetoric because they carry the illusion of equity for all while privileging dominant, mainstream voices. Technology tools also carry the illusion of equity for all when, in reality, many reflect dominant, mainstream voices, interests, and values.¹⁴

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