A program in which Spanish-speaking first grade children were encouraged to write stories about subjects of interest to them, using microcomputers and composing a personal storybook, has the advantages of using little-used computers, providing a link between oral and written language, encouraging creativity in students often perceived as learning disabled, and providing a product for students to be proud of. The example used is the creation of the little collection of children's writings called "Michael Jackson y Otros Cuentos" (i.e., Michael Jackson and other stories). The children were familiarized with the computers and a standard word processing program and were asked to compose a story about a favorite or interesting subject. The stories were printed out and copies given to each child for editing in class. The edited versions were then copied, made into books, and illustrated by the students. Two undergraduate student teachers provided enthusiasm, bilingual skills, lack of fear of computers, and creativity. Alternative computer-based class activities included question-and-answer communication between visitors and students, copying from storybooks, and playwriting. As the students progressed, their skill needs changed, and the teacher/facilitator role also changed. Results after three months included improved student self-concept as learners, more active participation in and initiation of learning, and improved attitudes toward writing. The children also began to read for meaning and ask questions about language, developing a sense of text and audience.
"Michael Jackson y Otros Cuentos": An approach to literacy development for bilingual children.

Maria Estela Brisk, Boston University, 1985

"Michael Jackson
El canta mejor que José. El canta
Billie Jean, Beat It y Somebody’s
, Watching Me. El es un hombre. Mi mamá
fue a la casa de Michael Jackson,
cosió, vio la televisión y papá fue
a la casa porque tiene que comer."


Susan, a college senior, and five first grade students sat around a table discussing what they were going to write about that day. Juan and Jose said they wanted to write about Michael Jackson, Lorenza about a broken television, and Madeline about a flower. The children then moved to their individual computers, inserted their data diskettes, and started writing in Spanish. Susan walked about the room answering the children’s numerous questions. When the children decided that they were finished, their stories were printed.
When two days later, children next assembled in the computer room, each received copies of their stories. We read them together, and proposed changes for all four stories. Before editing, the story quoted above had read:

"Michael Jackson
el canta mejor, el canta Billy Jean,
Beat It y Somebody's Watching Me. elmen
1234567890 mamafue alacasa demichael
cason cosino viola television ipapa
fue alacasa tyene kecorme."

I asked Jose "El canta mejor que quien?" After each student volunteered an answer, we chose Madeline's, "que Jose." I then asked in Spanish what "men" meant. Juan replied "El es un hombre," astonished by my ignorance. Referring to the books at hand, the children changed "i" to "y", "ke" to "que", and capitalized proper nouns and some of the beginnings of sentences. We counted the number of words in each of the clusters such as "alacasa," spacing between words.

Once the children completed their editing, I corrected, "without fuss, several punctuation and spelling errors which the children had not suggested. Susan produced final versions of the stories on the word processor making copies for every child. Together, we composed a title page and bound the "books" with colorful covers.

Next, the children illustrated the stories. Jose
carefully drew detailed pictures for each story, demonstrating that he had read and understood what his colleagues had written. Only four months earlier, Jose had tested out as in major need for special education. The results were so beautiful that we presented his book to the principal. The principal, who does not speak Spanish, asked Jose to read aloud a story. The principal beamed approval. Jose returned to his regular classroom and during the rest of the day, proudly admired his book. Within two weeks and only 6 hours in this activity — Jose had advanced one level in reading while all his grades had improved.

**Rationale for the project:**

The project I am describing was initiated for two reasons. First, research in reading has proved that native language instruction is a better way to introduce children of ethnolinguistic minorities to reading. However, simply using the child's mother tongue does not guarantee academic success among bilingual children. It is also important to find new and more effective ways of introducing the written language, given the background of the children. Many come from families which are not highly literate. Unlike English speaking youngsters, most bilingual children do not have access to books or periodicals, see signs and posters in Spanish, and, consequently, do not associate their oral speech to written language. Often bilingual children, as a group, test poorly, even in their own language. Many are
classified as candidates for special education based on perceived "learning dissabilities." Second, schools are awarded computers, which often remain unused or are introduced to students through computer literacy courses. Thus, children go to the computer lab to learn how to use the computer, rather than to learn something with the aid of the computer. The same dichotomy between means and ends appears in various approaches to teach written language. The teaching of writing and language in schools is often seen as an end in itself. Students write compositions to have their grammar and spelling corrected rather than to express their feelings and ideas in order to have them read and enjoyed by others.

The School's principal where the project took place was well aware of these problems. Consequently, when he obtained an allotment of computers, he sought community resources that would help the school put the computers to use benefiting all the children. When I was asked to recommend ways to use computers for these children, some teachers at the School and I decided not to emphasize the mechanical operations. And, as we explored how to use the computers we also decided not to use existing "reading and writing" software which, in our opinion, tended to structure responses in a way which might stifle the children's own creativity. Instead, we chose a word processing program with relatively simple mechanics and concentrated our attention on developing a variety of
techniques to teach our students the value of writing, principally its purpose to tell a story to others.

Thus, the project we designed attempted to invert the usual process of teaching writing by concentrating on content rather than form. Children in our project were encouraged to write, edit, and even "publish" stories and plays. The computer facilitated our task by supplanting conventional uses of pencil or pen which are mechanically slow and, for the very young, cumbersome. Because even children hunting and pecking on a computer keyboard can write quicker than they can with pencil and paper, they were able to write up their thoughts before they were forgotten. Word processing also enabled the students to expand and revise their writing as well as store drafts.

Participants and Organization

Before the project began, the students were given hands-on experience with a single computer. To familiarize themselves with the word processing software especially designed for children (Bank Street Writer), they were given opportunities to type their names or whatever they wanted. We demonstrated how to turn on the computer, start the program, and employ the space bar and shift key. No effort was made then, or later, to develop touch typing skills. No other computer operations were introduced at this time.

Once the school installed eight computers and two printers we were ready to begin the project. To complement
the work with the computers, we brought story books in Spanish, a Spanish/English dictionary, pencils, crayons, scissors, and paper. The whole first grade bilingual class was selected to participate regardless of ability or special needs. The students were divided into groups so that each student could have sole access to a computer. All told, the students devoted about 15 hours over a 3 month period at the end of the school year to writing at their computers and related activities in the computer room.

The primarily facilitators were Susan and Leslie, two undergraduate students chosen for their enthusiasm, bilingualism, lack of "fear" towards computers, and special creativity. I met frequently with the facilitators -- who took turns managing the activities at the computer room -- ironing out procedures and devising ways to stimulate the students. I also became a frequent observer in the computer room and doubled as a facilitator.

Introduction to the Word-Processor

Four levels of skills were observed among the participants during their first encounter with the computer. Some used the word processor without hesitation and a fair degree of accuracy. Others seemed to recognize the letters, but took time to write. Still others wrote with great difficulty. And a few had problems writing but could still accurately prompt peers when they were having difficulty. Language and reading ability did not always relate to their initial
reaction or ability to use the word processor. Carlos and Francisco wrote with great difficulty yet were initially as confident with the word processor as Jhinny, our best writer. Luz, who would not touch the keyboard the first day, was the first child to retrieve a file completely on her own.

Initially children experienced mechanical problems. Some pressed the keys too hard and for too long, causing unintended letter repetitions. Others wanted to press the return key at the end of each line. The fact that the letters as they appear in the keyboard are capitals caused some confusion, especially the "i" key, which in the keyboard actually looks like a small "1". The children were encouraged to refer to a large picture of a keyboard with both large and small letters that was prominently displayed. Most of these problems disappeared over time.

Although the emphasis of the project was language development rather than the use of the word processor, whenever we had to retrieve, save, edit, or print for the children we explained what we were doing. In addition, we wrote the instructions for each function in Spanish on large poster boards displayed around the room. Eventually many of the children could perform the functions with varying degrees of coaching.

**Literacy Development Activities**

We concentrated on free story writing as a means to relate writing to creativity and to emphasize text.
isolated letters or words. At first, we asked the children to write stories directly at the computer. To stimulate their imagination, however, we tried other less direct methods. For example, we engaged groups in discussing a topic before writing. At other times, we had the children illustrate an event and then asked them to write about what they had drawn. We also asked children to tell us what they had done in their classes and field trips.

Once the children considered their story complete, no matter the length, it was printed, edited, reprinted, and then illustrated. The final product was bound with colorful covers. A page was added to each "book" with the title of the story, the name of the "author," the "publisher," and date. Sometimes the "book" contained just what the child had written; other books anthologized stories by various members of the group. Copies were made for each child, the principal, and other administrators.

Other literacy related activities occurred spontaneously during the course of the project. One of the frequent visitors "talked" with a child through the computer. He and Juan wrote alternately questions and answers. This method also worked well with Angel on a day that he was reluctant to write. I typed a question and asked him to type the answer.

"Como te llamas?"

Angel

"Cuantos anos tienes?"
Initially I had to press for a response, but after a few questions his enthusiasm grew and the result was a two-page set of questions and answers, the longest thus far produced by anybody. Angel went around the room showing off that he had written the longest "story" of all, taking all the credit for the questions as well as the answers. Neither the word processor nor the printer revealed the identity of the "real" writer.

Occasionally children copied from story books. This activity interested advanced and slow writers alike. The more advanced writers accurately transcribed the book to the computer, demonstrating that they could recognize the rules of the written language. They used capital letters and punctuation marks. They also asked for the meaning of words they did not recognize and often asked to substitute a synonym, demonstrating that they were not only copying but reading for meaning. Copying stories gave the children who initially could not write, a feeling of accomplishment. Unlike the advanced writers, they ignored punctuation marks and capital letters and often the words would run together.

**Advanced student:**

"En un pais de ilusion, vivian tres conejitos hermanos, llamados Pim, Pam Y pum."
To elicit a different kind of language and teach students to focus on characters and topic we asked the children to write a play. We provided puppets asking each child to choose one, name it, and define its role. Leslie prompted the children to suggest a plot and the dialogue for each puppet. After some discussion, she typed the agreed-upon title, and the names and identities of the characters. As each character was supposed to talk, the name was typed, and the child dictated the lines. When the play was completed, each "actor" received a copy of the script, was told to study his or her lines, and then performed the play for the rest of the class.

The nature of the teaching

From the outset, the instructors agreed to work as facilitators assisting the students in the act of composing. They were also not supposed to "correct" but rather to "edit" the students' writing. The purpose was to create an environment where the children would feel free to experiment with the written language and therefore allow its natural development. Many of the children were not sure quite what to do initially and seemed afraid of making mistakes. It was
probably the first time that they were allowed to be creative without the threat of being corrected. Many students in their first attempts wrote again and again "mama," "papa," or "mama ama a papa". These words and sentences had been mastered in class. With encouragement from the facilitators all children broke away from this pattern and went on to write about themselves, their families and friends as well as imaginary tales.

The instructors tried a number of techniques to help the children accomplish the goal of writing stories. Eventually, the students helped each other much in the same manner that we helped them. At the beginning of the project, most students needed basic assistance. Nakari returned enthralled from a field trip to the nearby fire station. Her ideas came much faster than she could write, so I typed what she was saying:

"Los bomberos me montó en la silla.
me pusieron el gorro de ellos y despues
me lo quitaron..."

The story went on for many lines. Later, with the help of Eduardo she changed "los bomberos" to "el bombero".

Most children, even if they could not write, preferred to type themselves. The solution was to write on a piece of paper what they dictated and let the student copy. Copying their own sentences was no giveaway for children without writing skills. Dennis dictated:
"Había un nene se fue en una bodega y cuando fue afuera de la bodega lo que compró fue una papita."

Yet he typed the following:

HABIA UN NENE SE FUE EN UNA BODEGA
CUANDO FUE AFUERA DE LA BODEGA LO QUE COMPRO FUE UNA PAPITA

As they became increasingly secure about their ability they confined their requests for help to specific word choices and spelling.

Because Spanish is a phonetic language (most letters represent only one sound) an effective way to assist the beginners was to sound out individual sounds in a word while the student looked for the appropriate key. Problems occurred where a sound can be spelled in more than one way, as is the case with <b> and <v> in Spanish. Unless the student asked if their choice was correct, we waited until editing time to discuss these idiosyncrasies of the spelling system. Since Easter was approaching, Edwardo wanted to write about a rabbit: "El conejo se va para la casa." As I sounded out each sound: /e l k o n .../ he pressed the corresponding key. The sentence read:

"El conejo se va para la casa..."

The story went on and took more than one session to finish. But from then on Edwardo, who initially would only write "papa mama," soon composed on his own, sounding the words to
himself when he was not sure.

For the more reluctant writers, it was helpful to alternate writing sentences with them until a story was completed. When Angel and Juan joined me at a computer we took turns typing a story (what is underlined was written by the children):

"Juan se fue en su bicicleta a la tienda

para comprar _ _ _ _ _ _ _ _ _ _ _ _. Despues se fue rapido

para la f _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ ."

The story continued. I tried to hold them to general theme, while both Angel and Juan would argue about spelling.

As the students gained skills they required assistance of a different nature. The following conversation between Carmelita and me exemplifies the kind of help needed in the latter stages of the project. She typed the story continuously, but in the example below I have interjected our oral dialogue which was taking place simultaneously with the writing.

<table>
<thead>
<tr>
<th>Word-processor screen</th>
<th>Dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;MARIA</td>
<td>[C: Maestra, cual es tu apellido?</td>
</tr>
<tr>
<td></td>
<td>MB: Brisk, b,r,i,s,k]</td>
</tr>
<tr>
<td>BRISK TIENE UN CONEJITO.</td>
<td></td>
</tr>
<tr>
<td>SUSEN</td>
<td>[C: y el de Susan?</td>
</tr>
<tr>
<td></td>
<td>MB: f-a-i-r-c-h-i-l-d]</td>
</tr>
<tr>
<td>FAIRCHILD TIENE UN</td>
<td></td>
</tr>
</tbody>
</table>
CONEJITO.

[MB: De que color son?]

C: brown. Como se escribe 'brown', o pongo 'cafe'?  

[MB: Si escribes en espanol pon 'cafe']

C: Pero le falta el acento.

[MB: Se lo ponemos despues con lapiz.]

ES CAFE.

[C: oh! oh! (she erased)]

EL CONEJITO ES CAFE..."

By our quick responses to their spelling difficulties, the students were able to maintain the flow of their writing. Occasional questions asked by the instructors prompted a longer story than they initially planned to write. Discussions on language issues such as the one Carmelita's concern for a way to accent 'cafe', contributed towards more specific understanding of the written language.

The facilitaros helped the students edit their stories once they were printed. We encouraged students to make suggestions as the stories were read. If appropriate, story books and dictionaries were used as references. We also asked questions of incomplete thoughts, or statements that were unclear. The children tended to be most concerned about spelling and missing words. We prepared final drafts for illustration without violating the original text. We wanted
a copy free of spelling or grammatical errors to take home and read, but we did not want to inhibit the children's creativity or spontaneity. The idea was to imitate the process that real writers follow in creating a piece, e.g. creating, discussing, writing, editing, rewriting, and publishing.

Results

Over the course of the three months that we worked with the children we observed a change in their perception of themselves as learners, and their attitudes and behaviors in relation to the written language. Students became active participants in the task of learning. They initiated activities, and tried language without seeking teacher approval. They also realized that they could help each other, the teacher was not the only source of knowledge. At the start of the project, these children considered "reading" a chore which was defined as classroom recitation. After a few weeks children read for pleasure. They also lost the fear of writing when they realized that someone was interested in what they had to say rather than in how they spelled the words.

New behaviors emerged as testimony to literacy development. Children read for meaning, and asked questions about language. They all developed a sense of text, and of audience. They realized that they had to write stories that would be understood by others. Initially the ability to
write varied greatly. By the end of the project all the children could write a story with varying degrees of coaching. The less advanced children started by writing streams of words, numbers, or letters with no particular meaning:

MADELINE: "lamaliobrnoprhlquue...(going on for four lines)"

JOSE: "SUSA ANA cotado1234567890"

Towards the end they wrote meaningful stories although some of sentences were loosely connected. Jose's last story had 17 sentences. A sample of the unedited version read as follows:

"... Yo fui con mi hermano para afuera. Yo fui a la tienda a comprar pan. El conejo comió mucho pan e leche..."

Noteven the more advanced writers could compose initially a fully coherent story. Yet towards the end of the project some children produced rather sequential stories with significantly more care for detail in the choice of words, grammar, punctuation, and spelling. We were suprised to observe their eagerness to pencil in accent marks and other superscripts that the program we were using did not have. An unedited version of Lorenza's las story is an example of a fully developed and coherent account:

"Hoi nosotros jugamos kickball i jugamos yo Jose Madeline Dennis. Jugamos en un
circulo con dos bolas jugamos en el patio.
Yo gane."

In addition to our observations, the teacher noted that all the children had advanced in reading level and overall performance. Three children who were supposed to repeat first grade were promoted after being retested at the end of the project.

Conclusions

This project demonstrates that the computer can be used to develop literacy among very young children regardless of their initial ability to read or write. The creative process was reinforced by having the adults act as facilitators helping the students solve the problem of writing what they want, rather than dictating what should be written. The children became peer tutors helping each other, increasing their appreciation for language and appropriate expression. Thus, the computer will not replace the teacher but it will require that both teacher and students play a radically different role than they do at present in a typical classroom where the teacher provides the knowledge and the student receives it. In the approach employed in this project, the computer was used to elicit knowledge from the student, while the teacher stood on the sideline assisting and encouraging.

Moreover, there is no need to be a computer expert to take advantage of this new technology. It is more important
that teachers understand literacy acquisition and development. Written language, like oral language, needs to be allowed to develop. Thus, giving children a chance to use it without fear permits the natural stages of development to take place. For children raised in non-literate environments, the teaching of reading and writing must begin with appreciating the function of the written language. All students had the opportunity to become authors and have a sense of the function of the written language: to produce something for their own enjoyment and that of an "audience," rather than to give a teacher the opportunity to use the red pencil. In addition, the opportunities to discuss concepts and language during the act of composing, helps the young child, in the process of becoming literate, to work with logical relations and understand how language works.

This different approach to teaching also requires non-traditional materials. The best type of software is the one that allows for the most creativity. Restrictive materials often do not allow for natural development. A word processing program was preferable to prepared reading packages. Word processing permits children to impose standards and limits rather than imposing rules on them. Thanks to the power of the printer, the final product "looks" the same regardless of ability, and any help given by the adults is indistinguishable from what the child has written. Thus all students experienced success.
Ideally the computer should be in the classroom accessible to the students as they need to do their work. Thus, the computer becomes a readily available tool to help students and teachers, rather than a machine used during "computer lab period." Computer labs and computer curricula divorce this rich resource for learning from the other school activities. Teachers see this "new fad" as one more thing to fit in their already crowded schedule rather than as a resource to help teach the "basics." Once the novelty wears off, computer use will be considered as taking up valuable time from what teachers are supposed to cover. As the Computer Lab took over the Sewing Room in the school we were working, something else will replace the computer if it is not perceived as a valuable instrument for learning.