

**INDICATORS OF DEMOCRATIC BEHAVIOR IN  
NUEVA ESCUELA UNITARIA (NEU) SCHOOLS**

Submitted to:

Office of Health and Education  
United States Agency for International Development/Guatemala

Project of:

The Academy for Educational Development,  
Juárez and Associates, Inc., &  
IDEAS, Ltd.

July 15, 1994

Prepared under the Basic Education Strengthening (BEST) Project

Contract #520-0374-C-00-0530-00

Prepared by Dr. Ray Chesterfield

## TABLE OF CONTENTS

|                                   |    |
|-----------------------------------|----|
| EXECUTIVE SUMMARY .....           | 1  |
| INTRODUCTION .....                | 1  |
| Literature Review .....           | 1  |
| Method .....                      | 2  |
| FINDINGS .....                    | 5  |
| Egalitarian Beliefs .....         | 5  |
| Turn-Taking .....                 | 5  |
| Assisting Others .....            | 8  |
| Interpersonal Effectiveness ..... | 8  |
| Positive Feedback .....           | 9  |
| Negative Feedback .....           | 10 |
| Leadership/Involvement .....      | 12 |
| Student Government .....          | 12 |
| Directs Others .....              | 13 |
| CONCLUSIONS .....                 | 16 |
| BIBLIOGRAPHY .....                | 18 |

## EXECUTIVE SUMMARY

### Introduction

The *Nueva Escuela Unitaria* (NEU) program is designed for multigrade schools in rural areas of Guatemala. The program is being developed on a pilot basis in two regions of the country as part of the USAID-funded Basic Education Strengthening (BEST) project. The NEU program is based on active learning principles that stress collaborative learning, peer teaching, the use of self-instructional guides, participation in student government, and the like. The objectives of the program include providing students the opportunity to complete sixth grade; creating flexible, life-long learners; and encouraging the formation of participatory, democratic behaviors. This document summarizes the success of the program in promoting democratic behaviors during the first year of implementation.

### Design

The study used the existing database of the Improving Educational Quality (IEQ) project which is carrying out a multi-year examination of the NEU program. The IEQ sample consists of ten experimental schools in which the *Nueva Escuela Unitaria* (NEU) program is being implemented and ten similar schools without the NEU program, or *escuelas unitarias* (EU). The sample consisted of 220 children in first and second grade (116 in NEU and 104 in the comparison schools) who were observed in the contexts of Spanish and Mathematics at different times during the school year. Three dimensions of democratic behavior: egalitarian beliefs, interpersonal effectiveness, and leadership/involvement were examined through developing observable indicators for each dimension and coding the interactions of individual children in terms of the indicators. The occurrence of each indicator with individual children was tabulated and a chi-square analysis was used to make overall comparisons between groups of children as well as comparisons by region and gender.

### Major Findings

Overall, children in the NEU program exhibited significantly more democratic behavior than children in comparison schools.

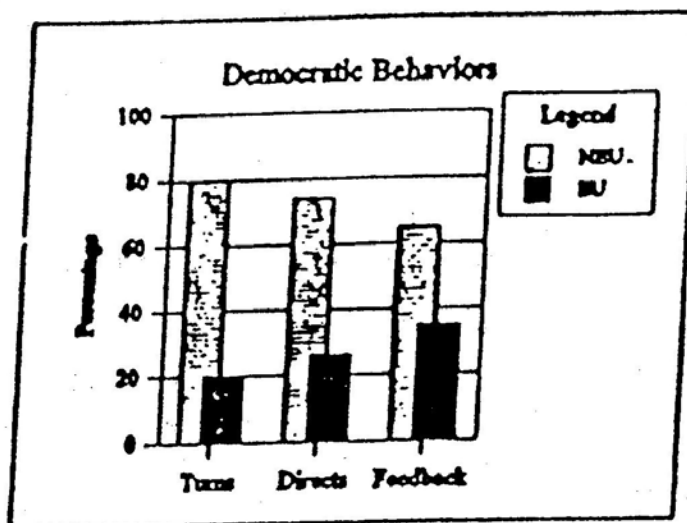
As shown in Figure A, NEU children were involved in significantly more turn-taking, directing others in an activity, and receiving positive feedback on their performance than comparison group children. These behaviors were indicators of egalitarian beliefs, leadership, and interpersonal effectiveness, respectively. In addition, all instances of participation in student government and choosing among viable options, as well as the majority of incidents of assisting

others occurred among NEU children. These indicators did not, however, occur with sufficient frequency to be examined statistically.

Figure A: Indicators of Democratic Behavior

Observable democratic behaviors were not only more frequent in the NEU program, but were also qualitatively different from those observed in traditional multigrade schools.

The majority of turn-taking, collaborative behavior, and supplying directions to others observed in NEU schools took place in the naturally-occurring contexts of child interactions in small groups. When such behaviors were observed in the comparison schools, they were generally directed by the teacher.



NEU children of both indigenous and Ladino origins had greater incidences of democratic behavior than similar comparison children.

Similar patterns were found when comparisons were made at the regional level. There were significantly greater incidences of turn-taking and directing others in an activity in both Region II, where children are primarily of indigenous origin, and Region IV, which has a *Ladino* population. Participation in incidences where positive feedback was received, however, was only significant among children in Region II, although a greater incidence of such behavior was also observed among NEU children in Region IV.

The NEU program promotes democratic behavior among both boys and girls. In the first year, however, the program has been more successful in encouraging these behaviors in boys than in girls.

Consistent trends favoring NEU children of both sexes over children of the same genders in comparison schools were found. However, NEU girls' behaviors differed significantly from those of comparison girls only on the indicator of turn-taking. NEU boys, on the other hand, had significantly more incidences of turn-taking, positive feedback, and directing others in an activity than did boys in comparison schools.

**One year in the NEU program is not sufficient to develop a broad range of democratic behavior among young children.**

Very few occurrences of behaviors such as: assists other students in an activity; expresses opinions or attitudes about the school content to peers or adults; and chooses among viable options were observed. In each case, the majority of such behaviors occurred among NEU students and, as each behavior was observed among first and second graders, children were developmentally mature enough to exhibit these behaviors. However, as each of the behaviors required a certain degree of confidence and practice with the subject matter, it appears that one year was not sufficient to provide the practice that would lead to these behaviors being exhibited on a regular basis.

# Indicators of Democratic Behavior in Nueva Escuela Unitaria (NEU) Schools

## INTRODUCTION

This document presents a study of democratic behavior among children participating in the BEST project. The study is limited to the *Nueva Escuela Unitaria* pilot project, as only this activity of the BEST project specifically identifies democratic behavior and attitudes as curricular objectives. The study uses observational data from the 1993 school year gathered as part of the Improving Educational Quality project. These data were analyzed for the purposes of this study by Dr. Ray Chesterfield during June-July 1994.

## Literature Review

Educational reform in the United States and elsewhere has begun to emphasize the active and meaningful participation of all students. The challenges of academic excellence and educational equity have led to an integration of subject matter proficiency and universal participation in the learning environment. Much of this convergence is a reflection of developments occurring in the field of cognitive psychology and the emergence of a constructivist or socio-constructivist approach to learning and human development (Coburn 1993, Watts & Bentley 1987). In contrast to the behaviorist, Pavlovian assumptions, presupposed by the previous approaches to learning and human development, the socio-constructivist approach focuses on the ways learners actually generate understanding (Resnick 1987 & 1989, Newman, et al., 1989). This emerging approach to human development emphasizes three interrelated aspects of learning that differ significantly from the behaviorist tradition: a.) that learning is a process of knowledge construction; b.) that learning is knowledge-dependent; and c.) that learning is intimately connected to the situation in which it takes place (Resnick 1989). Resnick asserts that individuals learn by actively interpreting information as opposed to simply recording it. That learning is knowledge-dependent suggests that it "depends on elaboration and extension of prior knowledge" (Ibid., 1989). The third aspect - that learning is tied to the situation - addresses the rediscovery that individuals better retain knowledge when it is embedded in some organizing structure.

Constructivist approaches to learning have begun to question the epistemological assumptions that support theories of learning and human development that downplay, or completely overlook, the influence of social interaction and language (i.e., discourse) on learning (See Wertsch 1985, 1991, Scribner & Cole 1981, Forman & Cazden 1985, Tharp and Gallimore 1988). In many cases this questioning has involved challenging some of Piaget's epistemological explanations of child development (Hickmann 1985, see also O'Loughlin 1992).

Educational psychologists, anthropologists, and sociolinguists have turned to the writings of Vygotsky to complement the Piagetian orientation and to explore more comprehensively the various

social and linguistic contexts within which the child develops (Paour 1990). For Piaget, developmental change and learning are synonymous, and they are both pre-coded, genetic, and obedient to an external structure of graduated epistemological levels. Whereas for Vygotsky, the dynamic processes by which children learn (i.e., pass from low levels of mental functioning to higher levels) are much less associated with preprogrammed cognitive designs. Rather than seeing the child as making his/her way through predetermined, successive stages of genetic development, Vygotsky views the child "unfolding in a massively social environment in which the determining aspects of growth were shaped...by other people in the community to which the child belonged" (Holquist 1990).

Vygotsky, attempting to call attention to the child's actual social context or community rather than the child's genetic code, utilized a construct which he terms the "zone of proximal development" (ZPD). Vygotsky's ZPD (1978) relies on the distinction between *actual developmental level* and *potential developmental level*. He describes the ZPD as:

the distance between actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers (Ibid., 1978).

Clearly, the Vygotskian perspective, with its emphasis on tutorial or peer assistance and/or collaboration in learning, reflects the shift in educational psychology towards constructivism. Learners are not alone in the learning process; rather, they are embedded in socio-cultural settings with pre-existing institutionalized, yet dynamic, contexts.

Seen in this perspective, part of the school experience is to learn, through participation, the social norms of the learning environment. This particular orientation is well suited to the study of an educational reform such as the *Nueva Escuela Unitaria* which stresses the training of the children to be active, creative, participative, and responsible. The program can be seen in the socio-constructivist paradigm in that it encourages collaboration through small groups and decentralized learning. Most important for this study, such learning experiences are seen to lead to democratic attitudes and behaviors, such as comradeship, cooperation, solidarity, and participation (Colbert, et. al., 1990).

## Method

The study used the existing database of the Improving Educational Quality (IEQ) project which is carrying out a multi-year examination of the NEU program. The IEQ sample consists of ten experimental schools in which the *Nueva Escuela Unitaria* (NEU) program is being implemented and ten similar schools without the NEU program, or *escuelas unitarias* (EU). In Region II (Alta and Baja Verapaz), five experimental schools were selected, three in the Department of Alta Verapaz and two in the Department of Baja Verapaz. As a control, five *escuela unitaria* schools which employed a traditional methodology and had characteristics, such as number of students, distance from a



municipal center, number of teachers, ethnicity of students, and absence of other educational programs, similar to those of the experimental schools were chosen. In Region IV (Jalapa, Jutiapa, and Santa Rosa) five experimental schools and five control schools were selected, using the same criteria.

The general sample consisted of first and second grade children who attended the twenty schools. There were 506 children in the sample. In addition, a sub-sample of 12 children from each school (six in first grade and six in second grade) was selected for more detailed observation. This sample was selected at random from the children in each grade, taking three girls and three boys, one student of each sex who was repeating the grade and two who were not. The children in the subsample were observed for periods of 5-10 minutes at various times of day and on different days of the week until a total of one hour of observation of Spanish language and Mathematics classes combined had been completed. The final intensive sample consisted of 220 children (116 in the NEU program and 104 in the comparison schools). It is the intensive sample which served as the basis for examining democratic behaviors in the classroom.

The indicators were created through a review of the *"Encuesta de Conocimientos, Actitudes, y Prácticas de Democracia"* developed through funding from the USAID Democratic Initiatives project. General concepts were taken from the survey that could be adapted to the behavior of young children in a school setting. A school can promote democratic behaviors and attitudes by creating situations that allow children to: 1) demonstrate or express rational, empirical, and egalitarian beliefs about how to function in social situations; 2) practice interacting appropriately with peers and adults; and 3) become involved in the social and political life of their school (and eventually of their community and nation). Behavioral indicators of these dimensions for young children are presented in the following table.

Table 1: Indicators of Democratic Behavior in Children

| Behaviors                      | Indicators   |
|--------------------------------|--|
| 1. Egalitarian beliefs         | a. Takes turns<br>b. Assists other students in an activity   |
| 2. Interpersonal effectiveness | a. Expresses opinions or attitudes to peers and adults<br>b. Choose among viable options                       |
| 3. Leadership/involvement      | a. Participates in school organizations (e.g. student government)<br>b. Directs fellow students in an activity |

Codes were developed to characterize each individual interaction of the sample children involving these behaviors. The occurrence of each indicator with individual children was then



tabulated and a chi-square analysis was used to make overall comparisons between groups of children as well as comparisons by region and gender.

## FINDINGS

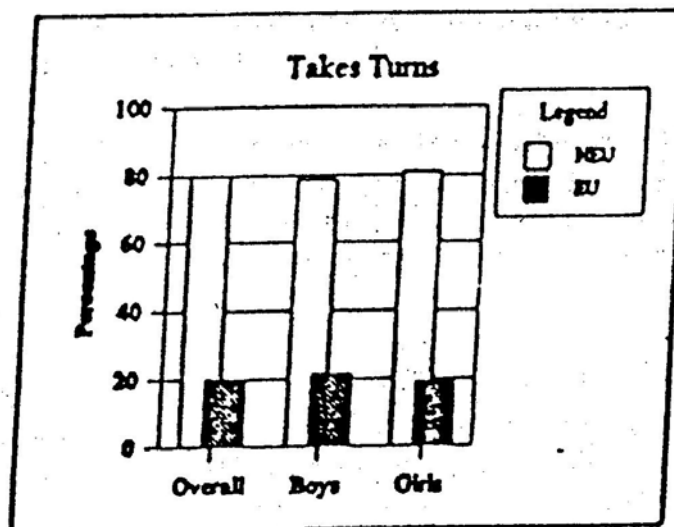
### Egalitarian Beliefs

The small group, collaborative learning approach of the NEU program is designed to encourage children to recognize the value of working with others and appreciating the ideas and actions of one's peers. Two types of observable behavior were used as indicators of the program's success in promoting such egalitarian beliefs in the school situation: taking turns and assisting other students in an activity.

### Turn-Taking

Figure 1 shows the incidence of occurrences where children in the sample allowed other children the opportunity to participate in an activity. Overall, 80% of the observed occurrences took place among NEU children. The trend found for overall occurrences of the behavior was consistent for both genders. NEU boys engaged in 78.5% of the observed behaviors by males, and NEU girls accounted for 81% of the observed occurrence of turn-taking among girls. These differences were significant at the  $p < .01$  for each comparison made (overall,  $\chi^2 = 13.5$ ; boys  $\chi^2 = 8.04$ ; girls  $\chi^2 = 8.64$ ).

Figure 1: Frequency of Turn-Taking in NEU and EU



Much of the turn-taking behavior observed in the NEU program takes place in the student-directed small group learning contexts. These contexts generally involve the self-instructional guides or ancillary instructional materials such as the library or learning corners. The following two examples typify the behaviors observed in the NEU program.

Flor is sitting in a circle with three other second graders at Carrillo school. The children are reading the self-instructional guide in a section called, "I'm preparing to use the dictionary"

(*Me preparo para utilizar el diccionario*). A girl in the group is reading about the turtles in danger (*Tortuga en peligro*) as the others listen. Celia finishes reading and passes the guide to Flor, indicating that now it is her turn to read. Flor takes the guide and begins to read softly. Her companions strain to hear her. Then Fany says, "Do it louder" (*Hazlo más fuerte, hombre*), and Flor begins to read louder.

Juanito, a second grader at the NEU school of Pantanal, is working on finding words in the dictionary with several other boys. William has the dictionary and points to a picture saying, "These are lions" (*Son leones*). Then passes the dictionary to Juanito, saying, "Let's see." Juanito looks through the dictionary and says, "I have bears" (*Yo tengo osos*), pointing to a picture of bears on the page.

A related behavior that was also commonly observed in NEU schools was that of collaboration. In such instances, children were observed to spontaneously agree to work together. The following example illustrates this type of behavior.

Elena, a first grader at Cereza, is in her seat, copying the words that are written on the blackboard "stick, chicken, table, wine, tomato, street, soup, ball, hill, machete, mill, baby" (*palo, pollo, mesa, vino, tomate, calle, sopa, pelota, loma, machete, molina, nene*). She turns to the girl on her left and asks, "Shall we read together?" (*Nos hacemos juntas para leer las palabras?*). The girl responds, "Okay" (*Está bien*). The two girls begin to work together with first Elena reading the words, then Betty reading them.

The observed incidences of turn-taking in traditional schools was generally of a different type. It involved waiting in a line to have the teacher review one's work, with the teacher calling children one by one. Contrary to the participatory nature of the turn-taking and collaborative work negotiated among the NEU children, almost all turn-taking among EU children is directed by the teacher.

David is a first grader in EU Aguazal. He finishes copying numbers from the board into his notebook, then joins the line of three children at the teacher's desk. He shoves his notebook in front of the teacher who says "Wait" (*Espera*). The teacher finishes with notebook he is correcting, then takes that of David.

One type of behavior that is very common in traditional schools and also occurs in NEU is pacing. Pacing is checking with peers to determine how far along they are on an assignment and reflects an environment which promotes competition rather than collaborative, egalitarian behavior. Examples that illustrate this type of behavior in both NEU and EU schools follow.

Mario, a first grade boy at EU Barrial, is in Spanish Language class. The teacher is assigning words to copy to the first graders. Mario is in the second row of first grade students, sitting next to another first grader who is copying his assigned words, "guitar, stew, and Swiss" (*guitarra, gulsado, suizo*). The girl in front of him turns to look at him and yells in his ear. She laughs and continues copying her words. Mario gets up and walks over to another first

grader. He asks, "Are you done yet?" (*Ya vas a terminar?*). "No, because I'm just starting." (*Yo no porque empezando voy*) he answers. Then Mario returns to his seat and begins working. The boy next to him says, "Look, I beat you," (*Mira, te gané*), and Mario just looks at him.

Daniel, a second grade boy at NEU Camillo, is in Mathematics class, sitting at his desk writing the numbers from one to 700. He reaches 620, repeating each number he writes, saying, "29, 30, 31. I'm on 631" (*Yo voy por 631*). He continues writing for a minute with a red pencil. He fills the page and begins a new one. He pauses to say to his classmate, "Which one are you on?" (*Por donde vas?*). The boy responds, "309." Daniel says, "I'm on 639" (*Yo voy por el 639*) and continues writing. Then Alejandro asks, "Which are you on now?" (*Por donde vas ahora?*). "On 679," (*Por el 679*) he responds.

A second behavior that was also commonly observed was requests to borrow materials. While positive responses to requests to share materials can be seen as an indicator of egalitarian attitudes, such requests are generally denied or rebuffed. This was especially true in traditional schools. Another common behavior in traditional schools was that of teachers discouraging children's attempts to help one another or work collaboratively. The following examples provide illustrations of refusing to share and teachers discouraging collaboration in EU schools:

Francisca, a first grader at EU San Fernando, is in Spanish Language class, standing near the second grade group. She says to her classmate, Berta, "Give me some fruit" (*Vas, dame jocos*). Berta doesn't give her any, and Francisca tells her, "You're so greedy. I always give you some. You're bad." (*Tan orgullosa que sos vos. Yo siempre te doy. Vos sos mala*). Berta tells Francisca, "Go back to your seat. You're not in this grade" (*Andate para tu lugar. Si vos no sos de este grado*). They pull each others' hair and fall on the floor. The other girls yell and call the teacher to separate them.

Fernando, a first grader at EU Lazaro, is sitting with the other first graders in Mathematics class writing the numbers 1 to 13. He is sitting next to his sister, Elena. After writing for a few minutes, he writes the numbers and asks his sister if he did it right. Elena looks at his notebook and says, "Not like that. Give me your pencil" (*Así no. Dame el lápiz*). She takes the notebook and begins to recopy it for him. The teacher realizes that Elena is doing some of Fernando's assignment and says, "Elena, stop doing your brother's work" (*Bueno, Elena, deje de hacerle el deber a su hermano*). She stops writing and says to the teacher, "Miss, Fernando can't write the number 8" (*Seño, es que Fernando no puede hacer el ocho*). The teacher tells her, "Let him work alone" (*Dejelo que trabaje sólo*). Elena returns the pencil to her brother who takes it and writes two more numbers.

When occurrences of turn-taking was examined regionally, the same patterns presented in the aggregate analyses were found. As can be seen in Table 2, at least 70% of all observed occurrences in each comparison involved NEU children. Overall comparisons significantly favor

NEU children in each region. Separate chi-squares could not be calculated for boys and girls owing to the small number of occurrences.

Table 2: Regional Comparison of Turn-Taking

|         | Region II |     |          | Region IV |     |          |
|---------|-----------|-----|----------|-----------|-----|----------|
|         | NEU       | EU  | $\chi^2$ | NEU       | EU  | $\chi^2$ |
| Overall | 72%       | 28% | 6.24*    | 94%       | 6%  | 6.24*    |
| Boys    | 74%       | 26% | ---      | 88%       | 11% | ---      |
| Girls   | 71%       | 29% | ---      | 100%      | 0%  | ---      |

\*  $p \leq .05$

\*\*  $p \leq .01$

### Assisting Others

The second indicator of egalitarian behavior was that of assisting others in their academic work. This type of behavior was limited among the first and second graders in the sample, possibly because of the children's own limited experience with the academic content at that stage of their schooling. Only 10 incidents of assisting others were observed. The general trend favored NEU children as 70% of the overall occurrences, 100% of the occurrences among boys and 57% of the occurrences among girls, involved NEU children. However, no statistical comparisons could be made because of the small sample size.

### Interpersonal Effectiveness

The indicators for interpersonal effectiveness were intended to show children's opportunities to develop solutions and give explanations for their solutions. The indicators appear to reflect behaviors that may require more than one year in the NEU program to develop. Only five incidences of children choosing among viable options were observed. All of these incidences occurred in NEU schools. No observations of children expressing opinions or attitudes about school content or social norms were recorded.

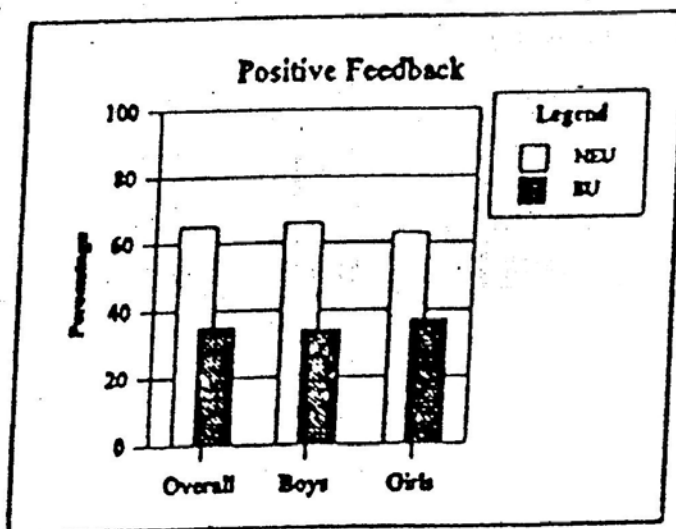
The limited number of occurrences of the indicators in the contexts observed lead to the choice of two proxy indicators. These indicators were "receives positive feedback" and "receives negative feedback." The assumption in the choice of these two indicators was that, although children were not exhibiting the behaviors, teachers might be creating an environment that would encourage the practice of such behaviors as the children matured or gained more experience with school. Thus, feedback both in the form of praise and in further explanation was chosen as an indicator of a classroom environment that encouraged the investigation of viable options and the justification for

choices made. This was contrasted with incidences of feedback that did not encourage freedom of expression by children.

### Positive Feedback

As can be seen in Figures 2 and 3, differences were found between NEU and the traditional multigrade schools in terms of the incidence of different types of feedback received by the students. Overall, children were significantly more likely to receive positive feedback in the NEU program ( $\chi^2=9.54$ ,  $p<.01$ ). Similarly, boys in the NEU program were significantly more likely to receive positive feedback than their male counterparts in EU schools ( $\chi^2=5.82$ ,  $p<.05$ ). While nearly two-thirds of the observed incidents of positive feedback among girls occurred with students attending NEU, this difference was not significant.

Figure 2: Frequency of Positive Feedback in NEU and EU



Positive feedback tends to be of two types in NEU schools. The first, as illustrated in the following two examples, is encouragement of elaboration of a lesson.

Zulay, a Q'eqchi'-speaking, first grade girl at Secuchil is in Spanish Language class. Zulay draws a woman with a child and below the drawing writes "Mother" (*mamá*). The teacher asks her, "What is this?" Zulay doesn't respond. The teacher then says, "Oh! This is a mother. Good, Zulay, now you have to write the other words you know, like map and pipe, under the picture." Zulay nods her head in agreement.

Enrique, a second grader at NEU Achigual, is in Spanish Language class. The teacher continues with an explanation and asks, "Who plays?" in the sentence that is on the blackboard. "The boy," answers Enrique and then remains silently listening. Then the teacher

says, "Tell me another sentence." Isabel responds, "The rooster crows in the house." Enrique says to her, "The airplane flies high." The teacher tells them, "Now you see that you can do it."

The second type of positive feedback is providing praise after successful performance. In contrast to lesson elaboration, which is confined largely to NEU schools, this type of positive feedback was observed in both experimental and comparison schools. The following examples illustrate such interactions, first in a NEU, then in an EU school.

Regina, a first grader in NEU Carmelo, is working on the formation of syllables in a small group. The teacher approaches and says, "Let's see, Regina, do you know what this says?" She indicates that she does by nodding and smiles. She reads, "Mi ma." The teacher tells her, "Very good, Regina." Regina smiles and blushes, touching her hair.

Irene, a first grader at EU Chiraxi, is copying a map of the rivers of Alta Verapaz that the teacher has drawn on the board. The teacher says to her, "Irene, you're working very quickly. You've almost finished. That's how I like students to be, bright."

An examination of the incidence of positive feedback by regions shows similar patterns to the overall findings. As can be seen in Table 3, close to 60% of all interactions occur in NEU schools. However, significant differences are found only in the overall comparisons in Region II and the comparisons among boys.

Table 3: Regional Comparison of Positive Feedback

|         | Region II |     |          | Region IV |     |          |
|---------|-----------|-----|----------|-----------|-----|----------|
|         | NEU       | EU  | $\chi^2$ | NEU       | EU  | $\chi^2$ |
| Overall | 68%       | 32% | 7.34**   | 60%       | 40% | 1.58     |
| Boys    | 75%       | 25% | 7.02**   | 57%       | 43% | 0.30     |
| Girls   | 61%       | 39% | 0.90     | 67%       | 33% | 2.04     |

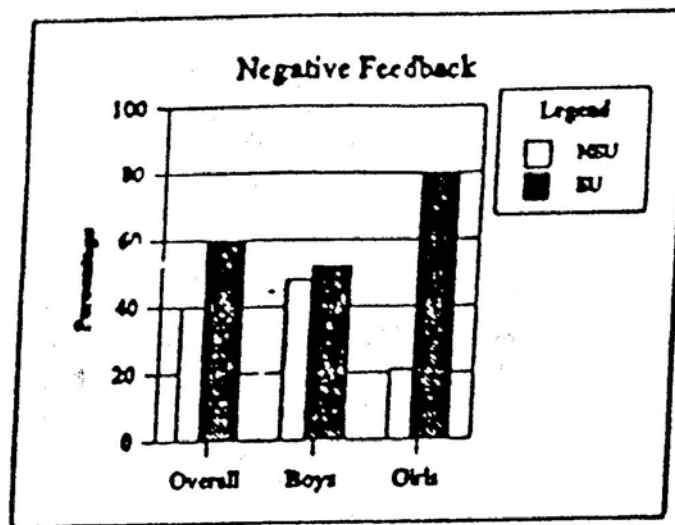
\*\*p<.01

### Negative Feedback

Negative feedback occurred in consistently higher frequency in EU schools. Such differences were not, however, significant. It is important to point out that the relative frequency of negative feedback was extremely high among girls in traditional schools, making up 79% of all observed occurrences when compared to their female counterparts in NEU schools.



Figure 3: Frequency of Negative Feedback in NEU and EU



As illustrated by the two examples that follow, negative feedback is similar in both NEU and EU schools. It usually consists of a teacher simply declaring that something is "wrong" or "bad" with little or no explanation of what the child should do to improve his/her work.

Alicia, a first grader at NEU Cerezal, is in Spanish Language class. The teacher is working with the first grade group of which Alicia is a part, grading their sentences. Alicia is in her seat near three girls in the same grade. The professor comes over to Alicia to grade her work. He asks her, "What does this say?" Alicia responds, "I go by" (*paso*). "No," the teacher tells her, "Here it says 'load' (*cargo*). You read it backwards." He then says to Alicia's classmates, "Why didn't you teach her?"

Carolina is a second grader at EU Sigualom in Alta Verapaz. She is working on addition problems that she has copied from the blackboard into her notebook. After a moment, Carolina finishes the exercises and gets up. She goes toward the teacher and hands her the notebook without saying anything. The teacher grades the problems which are "2+1=", "6+4=", and "9+2=". Then she tells Carolina, "They're all wrong. Remember that they're easy, and you can't do them." Carolina doesn't respond and returns to her seat in silence.

When the regional distributions of negative feedback are examined, generally similar patterns to the overall findings emerge. With the exception of NEU boys in Region II, EU children received negative reinforcement in greater frequency than NEU children. The differences, however, were not significant.

**Table 4 Regional Comparison of Negative Feedback**

|         | Region II |     |          | Region IV |      |          |
|---------|-----------|-----|----------|-----------|------|----------|
|         | NEU       | EU  | $\chi^2$ | NEU       | EU   | $\chi^2$ |
| Overall | 48%       | 52% | 0.04     | 39%       | 61%  | 1.88     |
| Boys    | 56%       | 44% | 0.06     | 48%       | 52%  | 0.04     |
| Girls   | 33%       | 67% | 0.44     | 0%        | 100% | 3.20     |

### **Leadership/Involvement**

The NEU program student government activities encourage the involvement of the children in the management and governance of the school. In addition to a school president and vice-president, there are committees responsible for the maintenance and organization of the learning corners, the library, classroom clean-up and the like. The responsibilities related to these activities take place largely outside of academic lessons. The program attempts to involve all children in the committee work. However, school officers and committee members are elected by the students. Thus, older children are generally elected to these positions, especially during the early years of program implementation. The comparison schools also have student committees with the clean-up committee being universal in all schools.

### **Student Government**

As the research focused on young children in the first and second grade in the context of academic lessons, little participation in school government would be expected to be observed. This, in fact, was the case, with only eight instances of an observed child participating in some way with student government activities being observed. It is important to note, however, that all such instances occurred with children in NEU schools as opposed to traditional multigrade schools. Typically, incidents were similar to that which follows:

Carlos is a second grader in Sanimlaha, a NEU school serving Maya-speaking children in the department of Alta Verapaz. He is working with three other children who make up the "turtles" group. The children are carrying out an assignment in the NEU self-instructional guide, on which they have been working for about 10 minutes. Carlos speaks in Q'eqchi' to Alma, another member of his group who responds in the same language. He then bends over his own work without speaking to anyone else. After a minute, Carlos gets up from his group and walks over to the "cows" group. Carlos says something to his classmate who exchanged a ball for a car, but exactly what they say isn't heard. It is only observed that he watches and touches the car that his classmate exchanged. Carlos then returns to his seat and begins to write in his notebook. At this moment, the president of the school government addresses all of the students saying in Q'eqchi', "We are going to go outside to practice a song. Please,

everyone should participate.\* Carlos puts his notebook away in his backpack and goes outside with all of his classmates.

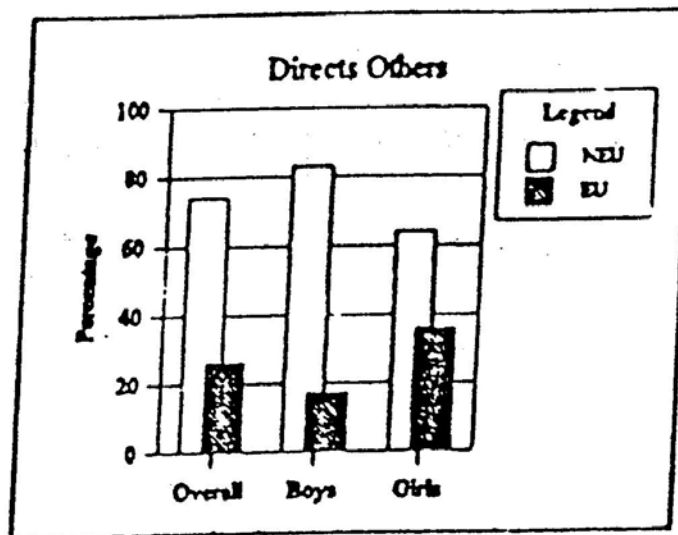
Although Carlos does not play a role in the actual functioning of the student government in this episode, he follows directions and appears ready to participate actively in the activity directed by the school president. Observations of this type suggest that the student government has a real function in NEU schools and that its activities are something in which the students participate willingly.

### Directs Others

The second indicator of leadership and involvement is the occurrence of instances in which children provide instructions to their peers on how to deal with academic norms. The active collaborative classroom environment encouraged by the NEU program was found to promote this type of behavior.

As can be seen from Figure 4, significantly greater incidents of directing peers was found to take place among NEU children than among children in traditional rural multigrade schools. Overall, 74% of the observed occurrences of directing others occurred among NEU children. This was largely a result of the greater observed willingness of boys in the NEU program to offer directions to their peers when compared to boys in traditional multigrade schools (83% versus 17%). Both the overall occurrence and the occurrence among boys are significant at the  $p \leq .01$  level ( $\chi^2 = 11.84$  and  $11.16$ , respectively). NEU girls follow the same trend, as they account for 64% of the total incidence of the behavior among the girls. This difference is not, however, significant ( $\chi^2 = 1.75$ ).

Figure 4: Frequency of Directing Others in NEU and EU



Much of the opportunity to lead or direct others is provided by the NEU program, through the use of "monitors." These children often direct small groups or serve as models for the exercises provided by the self-instructional guides. The two examples illustrate this type of situation.

William, a first grader in Sanimlaha, a NEU school in Baja Verapaz, has been asked by the teacher to distribute notecards with two- and three-syllable words based on the "significant expressions" generated by the first graders. He passes out the cards and then asks the other two children in his group to read the cards that they have. All three begin to read in a low voice.

Gloria, a first grader in Pantanal, a NEU school in Region IV, is serving as monitor for a group of five girls and a boy. She tells the group, "Now lets go to the sand table (*mesa de arena*) The entire group goes with her to the sand table and surrounds it. Gloria points to Vilma who begins to write, forming the word "soap" (*jabón*) in the sand.

A second type of direction comes from interpreting the classroom norms to peers. This type of giving directions is especially common in schools with Q'eqchi'-speaking children. The following example illustrates this type of behavior:

Ziola and the other first grade girls in Secuchil school in Alta Verapaz are watching the teacher as she goes to the board and writes /v/. She then asks, "Which letter is this /v/?" Ziola responds, "T, Miss." The teacher says to her, "Good, Ziola. It's called 't'." The teacher asks, "Which words are written with the letter 't'?" Ziola answers, "Tomato (*tomate*), ball (*pelota*)." The teacher asks, "What else? Not only Ziola can answer." Then Maria Elena says to Ziola in Q'eqchi', "Not again, Ziola. Let others answer." Ziola says to her classmate, "Maybe we should look in the book." They take out the Victoria book and begin to read aloud, "Leg (*pata*), kills (*mata*), fears (*teme*), take (*toma*), can (*lata*)." Maria Elena tells Ziola in Q'eqchi', "Don't say anything until the teacher asks you to."

In this sequence, Maria Elena interprets the teacher's directions to Ziola. Then the girls decide on a practice exercise which they carry out together. Finally, directions about classroom procedure are again supplied to Ziola in her native language.

Directions provided in the traditional schools tended to be of a different type. They are largely commands about individual behavior of children involved in a particular interaction and are rarely related to academic content or classroom social norms.

Roberto, a second grader at the traditional multigrade school, Achigual, is seen in the next example.

Upon finishing the exercise, Roberto closes his notebook. Then he takes a reading book, opens it, and reads with a child named José, remaining like this for two minutes. Then José

reads to him out loud, and Roberto listens to what his classmate reads. Roberto corrects him, "It's a vest," and José responds, "Don't tell me, crazy!" Roberto exclaims, "Oh, yes!"

As Ernesto, a first grade student at Seocox in Alta Verapaz approaches, Ivan says in Q'eqchi', "Don't bother me. You owe me since yesterday. You owe me. Go away." Ernesto wanders off without replying.

When the incidence of directing others is examined by region, patterns consistent with those found in the overall analysis are continued in each region. As shown in Table 5, there are significantly greater occurrences of directing peers both overall and among boys in both regions.

Table 5: Regional Comparison of Directing Classmates

|         | Region II |     |          | Region IV |     |          |
|---------|-----------|-----|----------|-----------|-----|----------|
|         | NEU       | EU  | $\chi^2$ | NEU       | EU  | $\chi^2$ |
| Overall | 71%       | 29% | 4.64*    | 77%       | 23% | 6.50*    |
| Boys    | 81%       | 19% | 5.06*    | 85%       | 15% | 4.92*    |
| Girls   | 60%       | 40% | 0.26     | 69%       | 31% | 1.22     |

\* significant at the  $p \leq .05$

While girls in NEU also exhibit higher percentages of such behavior than their counterparts in both regions, the differences in observed occurrences are not significant.

## CONCLUSIONS

The Nueva Escuela Unitaria program promotes observable child and teacher interactions that are indicators of democratic behavior and attitudes.

Despite the fact that the NEU program was in its first year of implementation and that the study focused on young children in their first years of schooling, significant differences were found in the incidence of democratic behavior when NEU children were compared to children in traditional multigrade schools. The NEU program is successfully promoting democratic behaviors along the three dimensions addressed by the study. NEU children were significantly more egalitarian in their behaviors as they were involved in taking turns and collaborating in academic content more frequently than children in comparison schools. Children in NEU schools also received significantly more positive feedback in the form of praise and further explanation than did students in comparison schools. Finally, NEU children exhibited greater incidences of leadership through directing others and participating in student government than did children in EU schools.

The NEU program was effective in promoting democratic behaviors with children of both indigenous and Ladino origins.

Similar patterns were found when comparisons were made at the regional level. There were significantly greater incidences of turn-taking and directing others in an activity in both Region II and Region IV. Participation in incidences where positive feedback was received, however, was only significant among children in Region II, although a greater incidence of such behavior was also observed among NEU children in Region IV.

Observable democratic behaviors not only occur with greater frequency in the NEU program, but they are qualitatively different from those observed in traditional multigrade schools.

The majority of turn-taking, collaborative behavior and supplying directions to others observed in NEU schools took place in the naturally-occurring contexts of child interactions in small groups. When such behaviors were observed in the comparison schools, they were generally directed by the teacher. This suggests that in traditional schools democratic behaviors, even when observed, may not have been internalized by children to the same extent as in NEU schools.

The NEU program promotes democratic behavior among both boys and girls. It appears, however, that the program has been more successful in encouraging these behaviors in boys in the first year.

Consistent trends favoring NEU children of both sexes over children of the same genders in comparison schools were found. However, NEU girls' behaviors differed significantly from those of comparison girls only on the indicator of turn-taking. NEU boys, on the other hand, had significantly more incidences of turn-taking, positive feedback, and directing others in an activity than did boys in comparison schools.

One year in the NEU program is not sufficient to develop a broad range of democratic behavior among young children.

Very few occurrences of behaviors such as: assists other students in an activity; expresses opinions or attitudes about the school content to peers or adults; and chooses among viable options were observed. In each case, the majority of such behaviors occurred among NEU students and, as each was observed among first and second graders, children were developmentally mature enough to exhibit these behaviors. However, as each of the behaviors required a certain degree of confidence and practice with the subject matter, it appears that one year was not sufficient to provide the practice that would lead to these behaviors being exhibited on a regular basis.



## BIBLIOGRAPHY

- Cohern, W.  
1993      Constructivism. Journal of Educational and Psychological Consultation 4(1):105-112.
- Colbert, V., Chiappe, C., and Arboleda, J.  
1990      "The New School Programme: More and Better Primary Education for Children in Rural Areas." Paper presented at the World Conference on Education for All. Jomtie., Thailand.
- Forman, E. and Cazden, C.  
1985      "Exploring Vygotskian Perspectives in Education: The Cognitive Value of Peer Interaction." In Culture, Communication and Cognition: Vygotskian Perspectives. J. Wertsch, (Ed.), pp. 323-347, Cambridge: Cambridge University Press.
- Hickmann, M.  
1985      "The Implications of Discourse Skills in Vygotsky's Developmental Theory." In Culture, Communication and Cognition: Vygotskian Perspectives. J. Wertsch (Ed.), New York: Cambridge University Press.
- Holquist, M.  
1990      Dialogism: Bakhtin and His World. London: Routledge.
- Newman, D., Griffin, P., and Cole, M.  
1989      The Construction Zone. Cambridge: Cambridge University Press.
- O'Loughlin, M.  
1992      "Rethinking Science Education: Beyond Piagetian Constructivism toward a Sociocultural Model of Teaching and Learning." Journal of Research in Science Teaching. 29(8):791-820.
- Pacur, J.  
1990      "Piagetian Constructivism and the Concept of Mediated Learning Experience." European Journal of Psychology of Education. 5(2):177-190.
- Resnick, L.  
1989      "Introduction." In L. Resnick, (Ed.), Knowing, Learning, and Instruction. Hillsdale, NJ: Lawrence Erlbaum Associates.

- Resnick, L.  
1987 Education and Learning to Think. Committee on Mathematics, Science, and Technology Education, Commission on Behavioral and Social Sciences and Education, National Research Council. Washington, D.C.: National Academy Press.
- Scribner, S & Cole, M.  
1981 The Psychology of Literacy. Cambridge: Harvard University Press.
- Tharp, R. and Gammore, R.  
1988 Rousing Minds to Life: Teaching, Learning, and Schooling in Social Context. New York: Cambridge University Press.
- Vygotsky, L.  
1978 Mind in Society: The Development of Higher Psychological Processes. M. Cole, V. John-Steiner, S. Scribner, and E. Souberman, (Eds), Cambridge: Harvard University Press.
- Watts, M., and Bentley, D.  
1987 "Constructivism in the Classroom: Enabling Conceptual Change by Words and Deeds." British Educational Research Journal. 13(2):121-135.
- Wertsch, J.  
1991 Voices of the Mind. Cambridge: Harvard University Press.
- Wertsch, J.  
1985 Culture, Communication, and Cognition: Vygotskian Perspectives. Cambridge: Cambridge University Press.