Schools, Communities, and Democracy:
The Nicaragua BASE Project

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Foreword

El Simiente Model School is just off the old two-lane highway to León, an hour and a half north-east of Managua. You can see the school from the road—three small brick classrooms connected by concrete walks, enclosing a central yard on three sides. On the far side of the school you can see a windmill turning a well pump. A pipe extends from the pump to a holding tank and an artificial fish pond. Surrounding the pond and the windmill are several hectares of irrigated garden. Beyond the green expanse of garden, the rolling landscape recedes into the distance, pale and dusty in the heat that prevails in the dry months from November through most of May.

El Simiente School serves the rural municipality of Nagarote, a community made up largely of agricultural laborers. El Simiente School is the pride of Nagarote. The windmill-garden-pond system was constructed by the El Simiente Parents' Council and student government. The pond doubles as an irrigation tank and fish farm. When parents and community members gather at the school, as they often do, there are usually enough fresh fish from the pond and frijoles and *ayote* from the garden for everyone to have plenty.

El Simiente was one of the schools I visited for my work on this publication. Profesora Nora Medal, the principal of El Simiente, is a leader in Nicaragua's school reform movement. Doña Nora and two other teachers teach about 100 children, grades one through six, two grades to a room, in the school's three classrooms. Visitors to Model Schools are usually received at the gate by members of the student government. On this occasion I was met by Miguelito and Vanessa. Miguelito is coordinator of the After-School Homework Extra-Help Committee, and Vanessa is president of the second grade. Miguelito and Vanessa are young, poor, rural Central American schoolchildren. They are startlingly poised and well-spoken. Vanessa advised me that she and Miguelito would be taking part in my conversation with Doña Nora. They accompanied me to Doña Nora's classroom. Miguelito produced some well-worn yellow plastic glasses and a pitcher full of a milky concoction called *tiste*, and the four of us—an eight-year-old girl, a ten-year-old boy, a masterful rural schoolteacher, and myself—sat down at a study table and drank *tiste* and talked about education.

The windmill and garden at
El Simiente Model School

Five hundred miles to the east of El Simiente, on Nicaragua's Atlantic Coast, Beulah Lightburn Model School stands on a bluff overlooking the community of Pearl Lagoon. The best way to get to Pearl Lagoon is from the coastal town of Bluefields. To arrive by mid-morning you set out at first light in a *panga* (a flat-bottomed river taxi with an outboard motor) and travel north through marshland. Beulah Lightburn is a large school by coastal standards, serving over 600 primary and secondary school students from the municipality that comprises Pearl Lagoon and surrounding communities.

Lissa Powell (left) working with BASE staffers at
Beulah Lightburn Model School

As we entered the school grounds, Lissa Powell, the principal, called out to us—"*Buenos días*, good *marnin*"—inviting us in three languages to join her in the relative cool of her office. Lissa and her faculty are trilingual, in Spanish, standard English, and the English-based Creole spoken by the majority population of Nicaragua's South Atlantic Autonomous Region. The BASE Project had recently sponsored a series of exchange visits for Model School teachers and parents from Nicaragua's Atlantic and Pacific coasts, including an exchange between Beulah Lightburn and El Simiente. Profesora Lissa talked with admiration about the well-windmill-fishpond system at El Simiente. From there the conversation turned to educational development in the context of a variety of problems—cultural differences, fatalistic community attitudes, and severe poverty. We talked about how whole communities can learn from each other about how to improve their schools, and how this sharing can be accomplished even over long distances and in spite of differences of language and culture, as had happened during the recent exchange between Beulah Lightburn and El Simiente.

Beulah Lightburn and El Simiente became Model Schools with help from the Nicaragua Basic Education (BASE) Project, a long-term effort funded by the U.S. Agency for International Development (USAID) and managed by the Academy for Educational Development (AED). The two schools are near the eastern and western end points, respectively, of a network of 170 model schools located throughout Nicaragua and supported by USAID through the BASE Project.

The BASE Project is USAID's flagship education program in Nicaragua. Methodological reform supported by community involvement has emerged as the predominant development intervention for primary education in the Western Hemisphere. Support for primary education reform of this kind is among USAID's most consistent successes. Programs like the BASE Project provide clear evidence that schools in deeply impoverished countries are not necessarily doomed to failure in the absence of new buildings and expensive equipment. In Nicaragua, modernizing the classroom methods used to teach young children, and involving the community in that effort, has proven to be a practical, powerful, and relatively inexpensive way to improve the quality of basic education and promote democracy, as it has in other countries in various stages of social and economic development.

The purpose of this publication is to describe the BASE Project, explain how the BASE interventions work, review what the Project has accomplished, and offer suggestions and recommendations for development practitioners based on the BASE experience. I am hopeful that BASE may also appeal to people interested in international development who are not specialists in education.

In preparing this publication, I interviewed Model School teachers, children, and parents, BASE Project staff and advisers, and senior officers of Nicaragua's Ministry of Education, Culture, and Sports, the host institution for the BASE Project. The informed, thoughtful, and often passionate words of the people I interviewed, recorded on a digital audio recorder, appear in boxes throughout the text that follows. As I translated those open conversations, I cut out my own questions and interjections, did some reordering, and inserted words and phrases for the sake of clarity and readability. I worked as judiciously as I could to make each quote represent what I understood to be the speaker's intended meaning. Any discrepancies, inaccuracies, or distortions are my responsibility.

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David C. Edgerton
Chief of Party, Nicaragua BASE Project
1997–2003

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Acknowledgments

I am profoundly grateful to Oscar Mogollón, the person to whom this publication is dedicated, for all he has done for the BASE Project. Don Oscar is the finest educator and one of the finest human beings I have ever known.

I heartily thank my editor, Carol Shookhoff, for her skill, stamina, patience, and good humor in working with me on this publication.

And, finally, I want to express here my love and gratitude to my wife, Winnie, and our daughters, Jessie and Hannah, for sharing our adventures in Nicaragua and for all the adventures we've shared over all these years of living and working abroad.

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DCE
Bloomington, Indiana
November 2004

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Preface

For more than ten years, the Academy for Educational Development (AED) has been working in close partnership with the Nicaraguan Ministry of Education to improve primary education quality by changing the way teachers teach, children learn, and primary schools are managed. The *Programa de Educación Básica de Nicaragua*, known as BASE II, confirms that even in conditions of poverty, children can learn quickly and well and that schools can be well-managed locally.

BASE II, which was funded by USAID, encompasses the core principles of AED's work in education: fostering meaningful partnerships within the countries and the communities in which we work; ensuring mechanisms for sustainability and ownership of reforms; enabling teachers to create participatory, active learning environments; empowering parents to support their children's education; measuring results; and nurturing democratic values.

The systemic changes introduced and embraced in Nicaragua over the past decade have profoundly affected students, teachers, parents, administrators, and community members. It has been a dynamic process requiring constant communication and evaluation, and it has had positive implications for curriculum, instruction, assessment, and professional development, which are documented in this monograph.

The Academy expresses its deepest appreciation to the Ministry and to USAID for their long-term support and commitment to the *Programa de Educación Básica de Nicaragua* and for their valuable contributions, which have been critical to its success.

Stephen F. Moseley
President and Chief Executive Officer
Academy for Educational Development

Background

The Nicaraguan Context

The 1990 election of Doña Violeta Barrios de Chamorro as President of Nicaragua marked the end of the Sandinista era and the return of U.S. foreign assistance the following year. Education was prominent in the U.S. assistance package. Since early 1994, the U.S. Agency for International Development (USAID) Mission to Nicaragua has funded a long-term effort to improve the quality of primary education in Nicaragua. That effort is called the Nicaragua Basic Education Project (BASE).

Nicaragua has a population of 5.35 million, of whom 2.2 million are of school age. Almost half (46 percent) of the population live below the poverty line and 15.1 percent live in extreme poverty.[1] Nicaragua's education indicators are correspondingly low: 6.6 years average schooling (2.2 for the most impoverished); 83 percent net primary school enrollment (up slightly from ten years ago); a primary school completion rate of under 45 percent; and ten-plus years for the average student who does stay in school to complete sixth grade.[2] Rural schools, particularly schools in the sparsely populated Caribbean coastal region of Nicaragua,[3] are the most marginalized, with badly deteriorated infrastructure, higher teacher turnover, and lower school quality indicators than schools in the cities and towns of the more populous central and Pacific regions of the country.

The Nicaragua Basic Education (BASE) Project

The purpose of the BASE Project is to help Nicaragua raise these low education indicators by improving the overall quality of primary education, improving student achievement, and increasing the number of students who complete sixth grade.

BASE is implemented in a sequence of two closely related projects: BASE I and BASE II.[4]

Juárez and Associates (J&A) is a private U.S. firm, founded in 1971, with offices in Los Angeles and Washington, D.C., specializing in technical assistance and custom social research in education, health, consumer research, communication techniques, and human resources. J&A also specializes in addressing the needs of corporate clients and working with public programs in Spanish-speaking contexts and in remote areas of the Spanish-speaking Western Hemisphere. As subcontractor to AED for the BASE Project, J&A provided services in program evaluation and bilingual education.

BASE I began in October 1993, when USAID/Nicaragua awarded an institutional contract[5] to manage the project to the Academy for Educational Development (AED) and subcontractors Juárez and Associates and IDEAS, Ltd. BASE I provided massive training for Nicaragua's primary school teachers and administrators as well as support for school autonomy and administrative decentralization and modernization. The institutional contract for BASE II,[6] which began in March 1999, was also awarded to AED, with Juárez and Associates as subcontractor. BASE II has refined and expanded the school quality reforms begun under BASE I, with increased emphasis on classroom methodology, rural education, bilingual education, and parent and community involvement in support of school quality.

The BASE II activities were organized for purposes of administration and monitoring into four categories, as follows:

1. "Increase Teacher Effectiveness"—training, materials, and technical assistance for teachers and school administrators.
2. "Increase Access to Quality Education for Underserved Populations"—extra training, technical assistance, learning materials, and other special services for small rural schools and schools in minority-language areas on the Atlantic Coast of Nicaragua.
3. "Increase Community Participation"—technical assistance and training to help parents and communities organize, plan, and implement school improvement projects; small grants to communities in support of selected projects; and grants to Nicaraguan non-governmental organizations (NGOs) to provide school-community development programs for selected Model Schools.
4. "Strengthen MECD[7] in Support of Decentralized Primary Education"—technical assistance, management training, technical training, and computer equipment and software aimed at modernizing the central Ministry of Education and decentralizing day-to-day educational administration to regional and municipal education offices.

Due partly to circumstances and in part to the success of the Project, USAID has expanded the BASE scope of work. Subsequent activities have included the diversion of Project funds and an additional US$4.5 million in funding over the first two years of BASE II in support of a multinational emergency relief and reconstruction effort following the Hurricane Mitch disaster, a Category Five storm that struck Nicaragua in October 1998. Other added activities have included development of teacher training materials on special education in partnership with the Kennedy Foundation; a pilot project in 2001 for Managua-area youth at risk from urban street gang activity; and the Global Development Alliance (GDA)/Nicaragua Model School Expansion Program. The Nicaragua GDA program is discussed in more detail in the section entitled, "The BASE Replication Experience."

A thorough discussion of any one of the Project's numerous components is outside the scope of this publication; however, a salient, but brief, example is the institutional impact that the Project had on the Ministry of Education. BASE helped the Ministry modernize and decentralize the management of pub-

Dr. Silvio De Franco, Minister of Education,
Culture and Sports, Republic of Nicaragua

"The concept is entirely clear within the Ministry
that active learning is not [something] centered in a
curriculum, nor in the teacher, nor in the school, but
in the activities of the child. . . . Active participation
in learning is a norm that should be in force in our
other programs [as well], adult education, [our] youth
programs. The active learning movement is basic. . . ."

lic education, automate the financial management
of the school system, standardize the collection of
educational statistics, and set up a computerized
system for information retrieval. The BASE Project
in its entirety is documented in technical detail,[8]
and interested readers are referred to that documen-
tation for information on BASE Project activities
that are not considered here. In addition, the section
entitled, "BASE and Bilingual Education," provides
detailed information on the bilingual component of
the Project.

Classroom and Community: The Unifying Threads

While the original design of the BASE Project
was very broad, classroom reform and community
involvement were the unifying threads. As the

Project grew and evolved in still other directions—
disaster response, special education, youth at risk,
and private sector support for education—concerns
about what goes on in classrooms, and about how
parents and communities can help improve schools,
remained the Project's central themes. This docu-
ment describes how the BASE Project addressed
these two concerns, what happened as a result, and
offers suggestions about lessons learned for plan-
ners and educators in other countries to consider
when implementing similar reforms.

Active Learning and Democratic Participation: The Essence of the BASE Project

Active Learning: A Standard of Practice

The objective of the BASE II Project can be easily
summarized: BASE II is about modern teaching
methodologies and community support for schools.

"Modern teaching methodologies" refers simply
to general methodological practices for teaching
young children that have been in use for decades
throughout most of the U.S. and much of Europe
and industrialized Asia, and are commonly referred
to as "active learning." "Community support for
schools" refers to the participation of parents and
the community in improving school quality, focus-
ing on how teachers teach and how children learn in
local classrooms.

Why the focus on methodology and community
support? Because in many developing nations,
the two main causes of poor educational qual-
ity are antiquated teaching methods and central-
ized, undemocratic educational administration.
International experience and research have shown
conclusively that even where classrooms are badly
overcrowded, and even in conditions of dire pov-
erty, reform programs that focus on these two prob-
lems can help improve primary education.[9]

Primary school teachers in the U.S., Canada,
Holland, or Japan are not inclined to use archaic

teaching methods because they were not taught that way themselves. The education debate in the U.S. is mainly about other matters—the middle grades, secondary school, curriculum issues, academic rigor, and standardized testing—not about the teaching methods used in the primary grades. Yet in many of the world's poor nations, teachers have kept on trying—and failing—to teach young children by lecturing at them from the front of the room while the children sit passively in rows, often uncomprehending, sometimes fearful, copying from the chalkboard into notebooks, chanting in unison, and memorizing by rote.

Education reform movements in Central America, Colombia, Chile, Brazil, and elsewhere in Latin America are succeeding in overcoming these deeply rooted teaching practices, which were introduced under Spanish and Portuguese colonial rule. Active-learning reform programs promote participatory, "hands-on" methods for teaching and learning. Teachers are retrained as learning managers. In active-learning classrooms, the desks and chairs are often organized into "learning areas"—with books and materials arranged by subject and available on

Two students at El Arenal Rural Multigrade Model School welcome a visitor by reciting a poem.

open shelves or tables—so that children can move independently from one task to another. The teacher may seldom address the whole class except to get the day started and keep things running, and will do little if any lecturing or leading drills involving the whole class.

Active learning works because it is the nature of all young children to learn by doing.[10] Individually paced learning works because equally intelligent children learn at different speeds. Small-group learning works because in many instances children can carry out a given learning task more easily by studying with other children than by studying alone or interacting with the teacher.[11] Efficiency is gained by organizing learning around these realities, instead of requiring all the children in a classroom to study the same thing at the same time in the same way.

It is important to distinguish between classroom reform based on active learning principles and the promotion of specific instructional approaches. Active-learning reform is not an advocacy platform for the application of any one instructional format, like the new math movement of the 1970s or the whole-language reading movement. A good reform program should equip teachers to deploy a *variety* of instructional techniques in a single classroom. Whatever instructional approaches or techniques a teacher may use, the essential goal of the project is to replace passive, uniform, rote learning with active, flexible learning tailored to the extent possible to the needs of each child.

A careful distinction also needs to be made between ineffective pedagogy and cultural contexts and traditions. Methodological reform does not necessarily imply breaking with any traditional skill or practice. An example is *declamación*, the stylized recitation by children of passages of memorized poetry, a valued part of school and community life in many Hispanic cultures. Young children in active-learning classrooms in Latin America continue to memorize and recite poetry with personal pride, to the delight

of their teachers and families, just as they always have.

By the same token, memorizing the alphabet, math facts, dates in history, or the names of plants and animals need not be onerous experiences for children. The difference with modernization programs like BASE is that memorizing is no longer *all there is* to learning. Teachers learn how to help children understand and remember basic facts by *using* the facts in comfortable, natural contexts—often small-group activities—to accomplish objectives that children value: solving a puzzle, winning a game, helping a friend, answering the question, "why," or finding out what happens at the end of a story.

Active Learning and Democracy

The encouragement of tolerant and inclusive democratic practices and attitudes is a distinguishing feature of the Nicaragua BASE Project. For active learning to work, all children in a classroom—regardless of differences in ability or achievement—have to be able to participate with self-confidence. The terms "democratic" and "democracy," as used here, refer both to the formal practice of democracy through elections, and also to the spirit of democracy—to attitudes that favor inclusiveness, fair play, respect for the opinions of others, and tolerance among people of different cultures, ethnicities, and traditions.[12]

In addition to promoting democratic values in the classroom and the formal practice of democracy through student government, the Project promotes community participation in school governance through local elected School Councils.[13] The School

> "The combining of active learning and community participation is the great virtue of the [BASE] Project."
>
> *—Dr. Silvio De Franco*

Councils are part of a comprehensive Nicaraguan government program to decentralize education to the municipal level.[14]

It is conceivable that promoting democracy may be easier in Nicaraguan classrooms and communities than in classrooms and communities in some other countries. Although democracy languished in Nicaragua for most of the 20th century, Nicaraguans point with pride to resilient traditions of participatory self-governance that have endured at local levels, especially in rural communities. The BASE Project does not promote democracy because of any presumptions about democracy and Nicaraguan culture, however, but because most children learn better in classrooms where the open exchange of ideas and opinions is encouraged. Research also shows that participation by parents in school life is a vital part of successful learning,[15] and we know from ample experience that parents of many different backgrounds and cultures will participate with enthusiasm in democratic school-supported institutions in order to improve their local school and gain hope for a better life for their children. The establishment of elected student governments and elected school-community councils where such institutions had not existed before is *ipso facto* a step toward democracy.

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Endnotes

1. World Bank *World Development Indicators* 2004, at http://devdata.worldbank.org; and World Bank EdStats at http://www1.worldbank.org/education/edstats/.

2. Partnership for Educational Revitalization in the Americas (PREAL) 2004 national "Report Card" for Nicaragua at http://www.preal.org.

3. See further discussion under "BASE and Bilingual Education," p. 23.

4. Because BASE II is the subject of this publication, the terms "BASE" and "the Project" in this report refer to BASE II unless otherwise specified or when the distinction is clear in context.

5. BASE I full contract value: US$16m.

6. BASE II full contract value with amendments: US$21.3m.

7. "MECD" is the Nicaraguan Ministry of Education, the host institution for the BASE Project; its formal name is "Ministry of Education, Culture, and Sports" (*Ministerio de Educación, Cultura y Deporte*).

8. See Bibliography. Unpublished BASE reports and technical documents will soon be available online from the USAID Development Experience Clearinghouse (http://www.dec.org).

9. See Emmanuela Di Gropello, "Education Decentralization and Accountability Relationships in Latin America," World Bank Working Paper No. 3453, November 10, 2004, available online at http://econ.worldbank.org/view.php?topic=10&type=5&id=40167; Gabriel Carron and Ta Ngoc Chau, 1996, *The Quality of Primary Schools in Different Development Contexts* (Paris: UNESCO/IIEP); Per Dalin, 1994, *How Schools Improve* (London and New York: Cassell); H. Dean Nielsen, and William K. Cummings. eds., 1997, *Quality Education for All: Community-Oriented Approaches* (New York and London: Garland); UNESCO, 2004, *Education for All Global Monitoring Report 2005* (Paris: UNESCO), pp. 65–71.

10. John D. Branford, Ann L. Brown, and Rodney R. Cocking, eds., 2000, *How People Learn: Brain, Mind, Experience, and School,* (Washington, D.C.: National Research Council, National Academy Press), pp. 3–27; Jerome Bruner, 1966, *Toward a Theory of Instruction* (Cambridge: Harvard University Press), p. 21; Jean Piaget, 1971, *Structuralism,* trans. and ed. Chaninah Maschler (London: Routledge and Kegan Paul), passim.

11. John D. Branford et al., ibid., pp. 133–136; David Hopkins, 2001, *School Improvement for Real (*London and New York: Routledge Falmer) (Ch. 5, "Powerful Learning and Powerful Teaching," pp. 71–92); B. R. Joyce, E. F. Calhoun, and D. Hopkins, 1997, *Models of Learning: Tools for Teaching* (Buckingham, U.K.: Open University Press), p. 7; Lev S. Vygotsky, 1978, *Mind in Society: The Development of Higher Psychological Process* (Cambridge: Harvard University Press).

12. The BASE II Annual Study (see bibliography, referenced websites, also discussion under "Impact," p. 37) included measurement of the impact that the Project had on formal democratic participation in student government. Objectively measuring "the democratic spirit" is another matter. To date no such effort has been made in the case of the BASE Project. The question of whether projects like BASE tend to strengthen the spirit of democracy in schools has been studied in other countries (e.g., Ray Chesterfield et al., 1996, unpublished, re the Guatemala NEU project).

13. See discussion of the School Councils under "How BASE Works," pg. 7.

14. See, for example, Bruce Fuller and Magdalena Rivarola, 1998, "Nicaragua's Experiment to Decentralize Schools: Views of Parents, Teachers, and Directors," World Bank Working Paper 5 on Impact Evaluation of Education Reforms; Elizabeth King and Berk Ozler, 1998, "What's Decentralization Got to Do with Learning? The Case of Nicaragua's School Autonomy Reform," World Bank Working Paper 9 on Impact Evaluation of Education Reforms, http://poverty.worldbank.org/library/view/5525/.

15. Robert D. Blum, 1990, *Effective Schooling Practices: A Research Synthesis* (Portland: Northwest Regional Educational Laboratory); Per Dalin, 1994, *How Schools Improve* (London and New York: Cassell); Ward Heneveld and Helen Craig, 1995, *Schools Count* (Washington D.C.: The World Bank); David Hopkins, 2001, *School Improvement for Real* (London and New York: Routledge Falmer), especially Ch. 6, "Conditions for School Improvement," p. 98; UNESCO, 2004, *Education for All Global Monitoring Report 2005* (Paris: UNESCO), pp. 168–177; James H. Williams, 1997, "Improving School-Community Relations in the Periphery," in H. Dean Nielsen and William K. Cummings, eds., *Quality Education for All: Community-Oriented Approaches* (New York: Garland).

How BASE Works

International Context

Reform programs in Hispanic countries throughout the Western Hemisphere, including Nicaragua, have been influenced by Colombia's seminal *Escuela Nueva* rural primary-education reform program. *Escuela Nueva* has been in existence for a quarter-century and is considered among the most successful innovations of its kind in the world. *Escuela Nueva* pioneered the basic set of new approaches to teaching and learning that continue to characterize many basic education reform programs in developing nations in the Western Hemisphere, including small-group study, self-managed study using learning guides, student government, community involvement, and teachers retrained as learning facilitators. BASE uses a variant of the *Escuela Nueva* teacher-based process for classroom quality improvement, with distinct Nicaraguan strategies for sustainability (see section entitled, "The BASE Replication Experience") and with strong emphasis on student government and democratic parent and community participation in support of school quality improvement.[1]

Nicaraguan Context

Throughout the 1990s, the Ministry used the term "humanist constructivism"[2] (*constructivismo humanista*) for the theoretical basis of the education quality reforms it promoted and that BASE I and BASE II supported. Constructivist applica-

Oscar Mogollón, Senior Technical Director of the BASE Project, at a Project-sponsored activity for outstanding students.

Don Oscar is a native of Pamplona, Colombia. As a young rural schoolteacher he was instrumental in helping found *Escuela Nueva*, Colombia's seminal rural primary-education reform program. He has advised education reform programs in numerous countries and is among the most successful and influential rural-education reform practitioners in the Western Hemisphere.

tions and modifications, usually with elements of cognitive and post-Piagetian learning theory, have

School Council meeting, Isabel Lizano,
Regular System Model School, Chinandega

gained wide currency in development education, especially where decentralization and community involvement are also important considerations. The Ministry appended "humanist" to the designation for its educational reform program to emphasize the importance of family- and community-centered education in the Nicaraguan program. Like other

Model School student government leadership exchange meeting, North and South Atlantic Autonomous Regions, Isabel Lizano, Regular System Model School, Chinandega

reform programs, the Nicaraguan program features elements that fall under the broader rubrics of active learning and "child-centered" learning. The *humanista* appendage also served to distinguish the Nicaraguan reforms from politicized education programs carried out in Nicaragua during the 1980s and elsewhere in the hemisphere.

Educators today generally seem increasingly disinclined to accept theoretical constructivism without modification. Currently in Nicaragua, senior Ministry officials acknowledge the influence of constructivism on Nicaraguan education and there is consensus that a distinctive feature of Nicaragua's reform program is a particularly strong emphasis on democratic family and community participation, not only in local school management but also in support of educational quality.

BASE Educational Quality Reforms

Teachers as Managers of Learning

The reforms supported by BASE and similar programs depend on changes in teachers' attitudes about teaching. Teachers must willingly change their professional self-perception: they must come to think of themselves not as traditional lecturers and disciplinarians, but as classroom learning managers, and beyond the classroom, as participants and local leaders in a democratic, community-based education reform movement.

These changes in attitudes and self-perceptions often require teachers to transform deep-seated attitudes acquired over a lifetime. The process of change is accomplished through a systematic, long-term program of in-service teacher re-training[3] that begins with regional and local workshops. It continues with meetings, exchanges, encounters, and observation visits among teachers and is sustained throughout teachers' working lives in local, school-based professional development organizations managed by teachers themselves,[4] with assistance from local and central administrators and technical specialists. In BASE and similar reform programs,

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pencil and a stick, line up bottle caps to learn place value, go outside and look up at the sky and point at cloud shapes to learn about the weather.

Learning Environment

In the constructivist classroom, each child follows his or her own individual path to learning with the teacher's help and guidance, using the resources available in a classroom environment arranged for that purpose. Active-learning classrooms typically have no "front" or "back," in the sense that desks, tables, and chairs are not oriented toward a single point from which the teacher teaches, but instead are organized into learning areas. Books and learning materials are available on open shelves or tables around the classroom. At any moment, children are likely to be working on several different subjects at the same time in different areas of the room.

"When you visit a school and observe a certain characteristic enthusiasm and profundity that indicates mastery by the teacher of the strategies of active learning, you'll see that that teacher doesn't think of himself as the center of things. For such a teacher, the center of things is always the child."

—Oscar Mogollón

teachers train other teachers in the new methodologies. Often, teachers are persuaded to adopt new ways of teaching by observing other teachers using the new methods in nearby schools, trying out the new methods in their own classrooms, and discovering for themselves how well the methods work.

Active Learning

The value of active learning is obvious to anyone who has ever watched a young child learn and discover. Yet, for reasons mainly the province of anthropologists and historians, cultures and traditions worldwide have often sustained approaches to primary education that run counter to the natural human characteristics of young children. With motivation, adolescents and adults can learn by listening passively to instructions, but by and large, preadolescent children cannot. Over the first ten years or so of life, most children learn best when they do something active in order to learn: make a fulcrum with a

Melba Castillo, BASE Project Manager

"You can say to a child, 'study this page,' and he or she will memorize it perfectly well and then repeat it like a little parrot. But if you can just help the child *do* something with the content of the page . . . , the child will know what the page says but will also start asking questions. . . . She will be acting, thinking, reflecting . . . , not just memorizing."

"In most of Nicaragua's schools, the reality is classrooms crowded with children with a great variety of needs. In every classroom there are children of different ages, there are fast children and there are slow children. These extremes should be motivated, too. The BASE Project is not a gifted and talented program, and it isn't a learning-deficit program. BASE is a *universal* program. A main purpose of active learning methodologies and the open-classroom setting is to help teachers individualize instruction and accommodate each child, even given a great range of ages, abilities, and needs."

—Oscar Mogollón

Small-Group Learning

Small-group learning is a key technique for individualizing learning, even in crowded classrooms. Children in the Model Schools supported by BASE spend much of the day studying together in pairs and small groups of four to eight. The main classroom tool, both for individualizing instruction and also for small-group learning, is a set of Student Learning Guides, used by students under the supervision and coordination of the teacher (discussed in the following section).

Small-Group Learning and Noise

The BASE II Ethnographic Study found teachers and parents coming to terms slowly with the fact that an active-learning classroom can be a noisy place. Children working in small groups talk to each other—sometimes excitedly. Given the strength of the traditional notion that a solemn, library-like hush must always prevail in the classroom, the sound level is something that both teachers and parents have to adjust to.

False Small-Group Learning

The BASE II Model Schools underwent a transition that began with children gathered in small groups, awkwardly craning their necks while the teacher delivered traditional lectures from the front of the room. This phenomenon has largely disappeared, although some Model School teachers may still occasionally be found lecturing at eight-year-olds as if they were students in a college lecture hall.

Individualized Learning

Individual attention implies small class size. Small classes are often an educational luxury that parents who can afford it achieve by sending their children to private schools. No one claims that BASE and similar reform efforts can magically transform impoverished, overcrowded public schools into finely appointed Montessori centers; but, if teachers are trained to be alert to each child's style and pace of learning, have simple materials in hand, and know practical techniques for individualizing learning, much can be done to tailor learning to children's individual needs, even in deprived conditions.

"Long ago, individual school desks found their way to rural schools—desks appropriate for use in universities. Those desks are the most inappropriate possible kind of classroom furniture to use with children. The right thing to use is square or round or rectangular little tables that accommodate between two and eight children and allow for interactive work and study.

"In the BASE I Project, the Model Schools were given desks appropriate for active learning, but the kids were seated together at these tables and the teacher was standing in front of the blackboard lecturing at them—it was awful!"

—Oscar Mogollón

Group Learning and Solitary Children

The 2002 BASE Ethnographic Study confirmed that some children will sit in the small groups but refuse to study with other children. Small-group learning is a useful tool for organizing a classroom—but some children may simply learn better studying alone, and if that's the case, that's what those children should do.

Student Learning Guides

The purpose of Student Learning Guides is to provide students in grades two through six with grade- and age-appropriate guides for individual, paired, and small-group learning activities. The Guides help ensure high educational quality in rural multigrade schools; allow each student to learn at his or her own pace; ensure that cooperative learning works; ensure that the teacher is able to act as learning manager and facilitator; and ensure that parents are able to help out in the classroom.

Learning Guides are not textbooks, nor are they content supplements (although BASE also produced mathematics and language arts content supplements, distinct from the Learning Guides). The Guides are collections of sequenced learning exercises and activities designed to lead students from introduction through mastery of skills and knowledge in core curriculum content areas (mathematics, reading and writing, physical science, and social studies, in Nicaragua's case) for grades two through six. They are written in simple language accompanied by illustrations, so that children can follow the instructions themselves under the teacher's guidance and with help from student monitors or parent volunteers who serve as teacher's assistants. The Guides also include learning activities to be carried out outside the classroom, in the community, and at home.

There is a collection of Guides for each grade and each subject area. Within each Guide, exercises are grouped into "initial," "practice," and "application" categories. Within these three broad groupings, learning is further divided into modular units and then, finally, into exercises and activities. Some exercises direct a child to work individually, but most call for work in pairs or small groups. Under the guidance of a teacher, student monitor, or teacher's assistant, individuals or small groups of students read the words in the Guides, look at the illustrations, and carry out the exercises and activities using textbooks, reference books, or learning materials available on open shelves (see following section entitled, "Classroom Learning Resource Areas").

Nubia Silvia Juárez, Director,
Isabel Lizano Model School, Chinandega Municipality

"The Learning Guide isn't just a tool for the multigrade schools. Our experience in Lizano Model School, which is a Regular System [urban graded] school, is that the guide is useful not just for study and for directing the use of manipulatives, but for forming value, too, because we are promoting the spirit of cooperation and working in groups. And moreover, the Guide induces parental participation. In every Guide there's a section that says, "accompanied by our mother or father." The guide makes the student work independently and autonomously, encourages the student to manipulate and construct his or her own learning."

Teachers keep a complete record of each student's progress through the Guides. Students are encouraged to be aware of their own progress and to participate in keeping their own records accurate and up to date. Student monitors also help teachers keep these records.

Students are also encouraged to tell the teacher or a monitor when they think they have mastered an exercise or activity. Teachers are trained to confirm student mastery, usually not by giving a written quiz but by consulting with the student and review-ing the exercise or activity with him or her. The general absence of written quizzes and tests from the daily classroom routine helps avoid competitiveness, which tends to make children try to hurry through a unit before they have mastered content.

Teachers are constantly forming and re-forming the study groups, bringing students into and out of one group and moving them into others, to accommodate both the individuality of learning and the cooperative nature of small-group learning.

Colombia's *Escuela Nueva* program pioneered the Learning Guide concept for use in rural multigrade schools, where they are especially important because they are what free a multigrade teacher to deal with more than one grade in the same classroom at the same time. The elements of self-directed learning—small-group learning, self-managed learning, individualized learning—are potent classroom reforms in their own right, in any elementary school classroom, multigrade or graded. In the multigrade classroom, however, not just the success of instructional innovations, but also the teacher's ability to cope depends on the Guides.

The BASE development of Nicaragua's Student Learning Guides in the Model Schools was made easer by the availability of good models from other countries.[5] BASE Model School Master Teachers developed Nicaragua's second- and third-grade Guides from scratch. The fourth- through sixth-grade Guides are adaptations of Colombian, Mexican, and Spanish multigrade learning materials, carried out by Model School teachers retained by the World Bank–funded APRENDE partner project and published with World Bank funding.

Student Learning Guides are used in many education systems in a variety of permutations, with examples available online. A photo of a collection of Guide covers and sample Guide pages follow.[6] The following checklist[7] summarizes the characteristics of the Nicaragua Student Learning Guides and similar guides in use in other countries.

- Colorful, attractive, uncrowded design, with drawings, cartoons, and varying typefaces.
- Integrated subject matter: each subject has its own set of workbooks, but each includes knowledge and skills from other subject areas.
- Developmentally appropriate information and activities.
- Consistent instructional presentation.
- Students continually involved in reading from and interpreting information in textbooks, library books, and workbooks.
- Writing in response to questions included in each lesson and unit.
- Content closely related to children's lives and communities.
- Most units involve students in active learning outside the classroom, often out in the community.
- Continuous assessment, with teacher feedback at the end of each unit.
- Questions and activities for each unit are done individually, in pairs, or cooperatively with classmates working at the same level.
- Immediate remediation given when a student does not understand the concepts or skills.

"The teacher's work is complicated enough. It doesn't make sense for a project to come in with a complex plan of action. A reform project should respond concretely to needs. Teachers should feel supported by a project and not perceive the project as theoretical and complicated."

—Oscar Mogollón

- Flexible promotion with emphasis on mastery, not failure. Students absent for extended periods can pick up their workbooks exactly where they left off on their return, with no penalty.

Classroom Learning Resource Areas

Classroom Learning Resource Areas[8] are areas around the classroom where most or all of the textbooks and learning materials in the classroom, including the Learning Guides, are available on shelves or tables. The Learning Resource Areas, as well as the small-group study tables, are busy places in an active-learning classroom.

Learning Resource Areas are common in primary education, are a standard fixture in multigrade active-learning reform, and should work equally well in graded classrooms. The purpose of the Resource Areas is to give children easy access to books and materials close at hand in the classroom and organized in ways that make sense to

The president of the Third- and Fourth-Grade Learning Area Committee at San Caralampio Model School shows a Learning Resource Area to student visitors from another school.

the children themselves. This is important because for much of the school day individual children and small groups are working on different learning tasks, completing tasks, and moving from one task to another at different times. The Learning Areas help keep this process orderly. Individuals and groups of students use the Learning Areas when they shift from one study unit to the next in the same subject area, and when they shift from one subject area to another, returning the books and materials that they have finished with and picking up new materials, with the teacher's guidance and with help from student monitors. Students also help design the Learning Areas and keep them neat. Many classrooms have an elected "Learning Area Committee" that helps the teacher maintain the Learning Areas.

Libraries

The Learning Guides direct students to use books from the classroom or school library as well as the Learning Centers. Ideally, every classroom should have its own library, but where this is not possible, a school library should be open and available to students over the course of the school day. In year 2000, the Project provided each Model School with an 85-volume basic "starter" reading and reference library containing a dictionary, a one-volume ency-clopedia, nonfiction reading and reference books, and Spanish-language standards and classics of children's literature. Many School Councils conduct

book drives, and parents and other individuals often donate volumes to the classroom and school. Project records show that all Model School libraries now have at least 110 titles, and some have many more.

Teacher Training Modules

The Teacher Training Modules are guides for auton-omous small-group peer training of teachers by other teachers. This peer training takes place largely in meetings of local, semi-autonomous teacher orga-nizations, called "MICs" (*Micro-centros de Inter-Capacitación*).[9] The Modules provide information and activities for peer training, professional growth, mutual support, and practical problem-solving.

Jacqueline Sánchez, BASE Project Technical Coordinator (posing with the student government at El Arenal Rural Multi-grade Model School)

"We [the project staff] aren't teaching [the new methodologies]. The teacher learns from her colleague, from her colleague's reality. In that lies the success of the teacher exchange [workshops]. The teacher learns from a successful colleague, and becomes convinced because his circumstances are the same as his colleague's."

— Jacqueline Sánchez

They use a fictional "case study" format—short stories that dramatize classroom issues and problems and illustrate techniques for addressing them. In their quality-circle groups or in other meetings or gatherings, small groups of teachers generally read a case study aloud and then use the reading as the basis for discussion. These can either be open, or participants can follow "reflection and analysis" guidelines provided in the Modules. The main purpose of these group exercises is to provide encouragement and structure for teachers to share teaching techniques and help each other talk through problems and work out solutions.
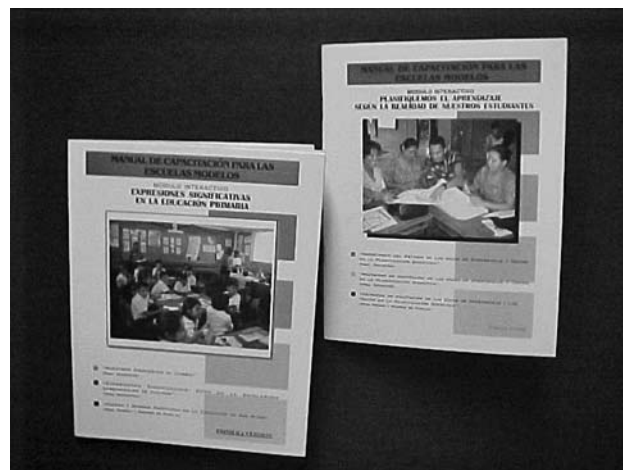
Table 1: The Base Interactive Training Modules

Module 1: • Consultative Supervision • Autonomous MIC Management	Module 11: • Student Government
Module 2: • Construction of Learning • Individual Differences among Learners	Module 12: • The Library
Module 3: • New Roles for the MICs • Classroom Learning Centers	Module 13: • Academic Standards for Primary Education
Module 4: • Automatic Promotion in Graded Schools • Flexible Promotion in Multigrade Schools	Module 14: • The MICs as "Quality Circles"
Module 5: • Techniques for Participatory Evaluation • The Project Approach to School Improvement	Module 15: • Significant Expressions (1st-Grade Language Arts)
Module 6: • Constructivism: A New Way of Learning • Integrated Learning Units: Planning Instruction	Module 16: • Classroom Processes
Module 7 (Multigrade MICs): • Affection and Trust: Keys to Working with Children	Module 17: • More Planning Strategies
Module 8 (Regular System [graded] MICs): Communication Skills • Math Can Be the Most Interesting Subject • Participatory Evaluation	Module 18: • Evaluating Students
Module 9: • The Resource Centers	Module 19: • Developing Learning Materials
Module 10: • Working with Parents	Module 20: • Characteristics of the Model Schools

"Nicaragua's Educational Participation Law resulted from the BASE Project's Community Participation initiative. The Educational Participation Law was passed by the [National] Assembly in 2002 and implemented by the Ministry of Education in 2003. That law requires the Ministry to take concrete actions to encourage participation by parents, communities, and society as a whole in support of the well-being of education. The BASE Project has had such a [great] impact on Nicaraguan education, to have motivated the creation of a law [that favors] educational participation. . . . On the basis of the Educational Participation Law, the Ministry of Education had taken the decision to go ahead with [total] school decentralization. The Educational Participation Law was the motivating force for school decentralization [to the municipal level]."

—Violeta Malespín

The Modules reflect two important assumptions: 1) any gathering of experienced teachers represents a rich repository of vivid and useful classroom experience; and 2) every classroom has a unique collective character animated by the individuals in that room; therefore, no single approach to teaching can be right for every situation.

BASE has developed 20 Interactive Training Modules, each containing twenty to thirty units organized around related themes of concern to teachers.

Materials Developed by Teachers

The Teacher Training Modules, Student Learning Guides, and supplementary content-area materials were written by teachers from the BASE Model Schools working in teams under the guidance of the Project technical staff, Ministry counterparts, and Nicaraguan consultants and content-area specialists hired by the Project.

Turning to teachers as uniquely knowledgeable partners helped foster co-ownership of the Project's reforms. The teachers invited to write materials were those identified by the Project staff in consultation with the School Councils and local Ministry officials as the best and most experienced Model School teachers. The regional or municipal *delegado* (Ministry-appointed head of the regional or municipal education office) gave final approval for each appointment.

The Project treated participating teachers as local consultants. Teachers worked after school, evenings, and weekends on BASE materials and were paid an hourly rate based on their salaries. Of the approximately 3,000 Model School teachers, about 140 worked on materials at one time or another over the five-year course of the Project.

Model School Master Teachers (*Maestros Expertos*). When they began working with the Project, they were already known as their communities' best professional educators, and they tended to emerge as leaders in Project meetings and workshops, meetings of the local teacher quality circles, and school-community activities and events. The Master Teachers are among the most articulate spokespeople for the reforms promoted by the Project, and their association with the Project did much to hasten and strengthen acceptance of the reforms, as well as acceptance of the Project itself, by parents, community members, and local authorities.

Student Government

Student participation in all aspects of school life and governance is a hallmark of the reforms promoted by the BASE Project and is among the most visible aspects of the Project-supported Model Schools.

A student government delegation almost always appears immediately to greet visitors at the school gate, even when the visit is unannounced. Activities of student governments vary from school to school, but most participate in upkeep of the school building and grounds, plant and maintain a school garden, assist teachers and directors in school management (including helping keep the school rolls and attendance records), plan school sports activities and celebrations, conduct fundraising projects, and coordinate activities with the Community Council.

The BASE Project encourages student government to be as inclusive as possible. In the Model Schools where the student government system is working well, elections are frequent, offices are many, children who do not hold office are eager to volunteer on school committees, and the school committees are so numerous that every child who wants an elected or appointed office can have one. Visitors to Model Schools are often delighted and moved by the earnest pride with which even very young children inform visitors that they serve as "Chairman of the Commission to Fix the Soccer Net" or "Second Secretary of the Committee That Sweeps the Back Patio."

Student government is an obvious mechanism for promoting democratic principles. An active, inclusive student government can do much to encourage student co-responsibility for school quality improvement. In the case of very impoverished schools, student government is also a practical necessity. When student government and community participation are both working well, the student government and the Community Council can provide essential maintenance of the school and grounds. Many of the BASE Model School student governments also work with the Community Councils to organize after-school "academies" where literate parents and outstanding students work with students who need extra help with their studies.

Family and Community Support for School Quality
Background
The organized engagement in school quality improvement by the members of each Model School community is a distinguishing feature of BASE II and one of the Project's important successes. Before BASE II there had been little interaction between many of the Model Schools and the communities they served. By 2004, a majority of parents and community members were involved, and many Pacific Region Model Schools had parental participation that approached or reached 100 percent.

Ana María González, Directora (Principal),
Miguel Arreynaga Urban Graded Model School, León

"With the new methodologies, the parents need to know how they can help their sons and daughters with their studies at home. For that, they have to be in a classroom and observe how it works. We invite them to assume the role of observers—'Which day would you like to be the daddy helper in the classroom? You can observe the methodology, help out in class, and then you'll know how to help your son work on his homework problems, too.'"

The value of parental and community participation in support of school quality is well established. When parents are present at school and directly involved in their children's education, learning improves, classrooms become livelier, schools become safer, enrollment and attendance increase, and children stay in school longer.[10]

The BASE II efforts to encourage community participation were also designed to complement Nicaragua's School Autonomy program,[11] launched in 1994.[12] Under the School Autonomy program, the Ministry set up School Councils (*Consejos*

Escolares)—democratically elected local organizations—and gave them significant responsibility for the management of local schools, including administering the school's operating budget, and a voice in hiring and firing teachers and the principal (*director*). BASE I and other donors helped the Ministry strengthen the Autonomy program by providing training, information, and reference materials on school management to the School Councils. Although the Ministry had consistently encouraged the Councils to support educational quality improvement in addition to school management, prior to the BASE II Community Participation component, there had been no donor project support aimed specifically at involving parents in efforts to improve educational quality.

BASE Community Participation Component

To ensure robust Project support for parental and community participation, USAID specified that BASE should include a separate community participation component.[13] BASE promoted four kinds of activities by parents and community members and sought to measure increases in those activities in the Model Schools.[14] The activity categories included:

1. Parental visits to school to obtain information or talk to the teacher or principal.
2. Parents and community members helping with school infrastructure (making furniture, making repairs), upkeep (painting, cleaning), and routine administration (e.g., helping to cook or serve snack or lunch).

"The BASE Project has done much to incorporate the family and the community [into school life], and in that sense, [the Project has] brought about a deepening of democracy. I am among those who believe fervently that democracy is either local, or it's nonexistent."

—Dr. Silvio De Franco

3. Active membership in the School Councils (attending meetings, serving on committees, working on Council-sponsored activities).
4. Contributing directly to learning by participating as volunteers in classroom or extracurricular activities (creating teaching materials, serving as teacher assistants, making presentations, coaching sports, etc.).

These four types of activities are listed in rank order, from the most common with the least impact on educational quality (Category 1) to activities that are less common but have greater impact (Category 4).

The activity categories can overlap. For example, almost all Model Schools keep gardens. Parents who help with the school garden contribute to the improvement of the school infrastructure and feeding program (Category 1), but while helping with the garden, they often also become active participants in outdoor natural science and math instruction (Category 4).

Many literate parents volunteer as teacher aides or work in after-school sessions, called "Academies," offered by many Model Schools for tutoring and help with homework. The Academies, co-managed by the School Council and student government, are staffed by literate parents and outstanding students. The idea and the name, "Academy," originated with a School Council project at one Model School and spread to others through Project-sponsored regional School Council and student government exchanges.

In keeping with constructivist learning theory, Model School teachers try to help children connect their classroom studies to daily life and local culture beyond the classroom. The Project works from the premise that every mother, father, and interested community member can contribute in some way to the learning process. Especially in rural communities, many parents are minimally literate or are illiterate, but they can still participate in most school-support activities, including those directly related to learning. For example, the Project designed

"manipulatives" (e.g., wooden "mathematics kits" containing arithmetic and geometric reasoning and problem-solving games and puzzles) to be replicated by parents with skill at woodworking.

Minimally literate and illiterate parents can also contribute by giving talks and helping with small-group study and field trips. Rural men and women, literate and illiterate alike, are knowledgeable and often articulate speakers about matters affecting their lives and livelihoods. Their expertise often includes complex technical specialties—cheese making, beekeeping, animal husbandry—with interesting, instructive connections to schoolwork. In many parts of rural Nicaragua, men and boys are skillful horsemen by dint of long tradition. The lore and knowledge underlying experienced horsemanship are frequent points of reference in the Model Schools in those regions, both for classroom study and for inquiry extending beyond the classroom. In many Model Schools on the Atlantic Coast, fishing is the predominant livelihood, and thus fishing and the fishing industry are natural points of reference and inquiry for schoolwork.

In urban Model Schools as well, Project staff are often surprised and impressed by the varieties of skills and the knowledge, experience, and wisdom that parents and community volunteers with little formal education can contribute in support of classroom studies. For example, throughout urban Central America, many people make their living as street vendors or proprietors of small shops; not all of them are literate, but they are usually very good at mental arithmetic. In several urban Model Schools, vendor and shopkeeper parents work with children on rapid mental math calculation exercises. One Managua-area Model School recently held a mental math contest, with children, teachers, parents, and several neighborhood vendors vying to see who could make change and estimate quantities the fastest and most accurately.

Project Support for Community Participation
BASE II worked directly with both School Councils

and parents and communities at large. The package of community participation services provided by the Project to the Model School Councils included training, technical assistance, and small awards of Project funds to help the Councils pay for school improvement projects.

Training workshops for parents and the entire community provided information on active-learning methodologies and suggestions and brainstorming on ways for parents and communities to support their local school. Training for School Councils included specific instruction on planning and managing school-support projects. The School Councils were invited to submit written proposals for school-improvement projects to receive "mini-financing" from BASE. The Councils developed proposals ranging from infrastructure projects—building a sidewalk, installing a latrine, building a fence to keep farm animals out of the school garden—to buying books and materials for a community after-school study center and adding a new room to the school to house it.

The BASE staff helped the School Councils write proposals, reviewed and evaluated the completed proposals, and provided contributions of up to US$1,000 to the Councils to help fund approved projects. Most communities offered in-kind contributions of labor and local products, which BASE then matched with grant money. BASE staff and Ministry counterparts also provided ongoing technical assistance to schools, School Councils, and communities as needed, both to assist communities with the partially funded school-improvement projects and to encourage the overall efforts by parents and communities to become more involved.

Project Grants to Local NGOs
The BASE II contract specified that approximately US$1 million in Project funds be awarded to Nicaraguan non-governmental organizations (NGOs) in the form of grants to develop creative initiatives for promoting community participation

in school quality improvement. The Project issued a public request for award proposals, received 38 proposals, and awarded two-year grants to six Nicaraguan NGOs to provide special community participation programs at 45 Model Schools. The NGO programs included the same kinds of services (training, technical assistance, and small-scale financial assistance) that the other Model Schools received directly from the Project, but each of the six winning proposals also offered an alternative approach to school-community support that the Project, Ministry, and USAID representatives on the grant award committee judged to have exceptional interest and potential for success.

Although the per-school cost resulting from the grant awards was higher than the cost to the Project to provide services to schools directly, the NGO grantees did generate creative, viable new ideas for promoting community involvement in support of school quality. One of the grantees, for example, was *Los Pipitos*, a Nicaraguan association of parents of children with special needs, which rallied the energies and affections of four Model School communities in support of "mainstreaming" special education. The School Councils at those schools built access ramps for wheelchair-bound children and worked with the Community Councils and student governments to help set up appropriate classroom adaptations and establish a welcoming atmosphere for special students.

Another grantee was the Cocibolca Foundation, responsible for managing the Mombacho National Reserve, a beautiful upland rain forest dominated by a dormant volcano. Four Model Schools are located within the Reserve's buffer zone. The Cocibolca Foundation staff worked with teachers at these schools to develop a special curriculum to help students, teachers, parents, and community members become knowledgeable about the rare flora and fauna and other special characteristics of the Reserve, and to develop community pride as resident custodians of a national treasure.

Endnotes

1. The Nicaraguan program, as distinct from *Escuela Nueva* and other earlier reforms, includes strong emphasis on community participation because community involvement is an increasingly common part of education reform programs worldwide.

2. Constructivism is different from "active learning." "Active learning" is a broad methodological term that, beyond its essential meaning—learning by doing something rather than just sitting passively—is used by many educators to refer to many different kinds of teaching approaches and methodologies. Constructivism is a learning theory, not a teaching methodology. Briefly, constructivism holds that learning is a social or cultural process or activity, that teachers teach and learners learn mainly by "constructing" their teaching and learning over the course of interactions with other learners, teachers, parents, authority figures, etc.

3. See further discussions of teacher training below under "Teacher Training Modules," p. 15.; "Training Modalities," under "The BASE Replication Experience," p. 39; also Annex 4: "On Teachers and Teaching" under Notes for Practitioners: A Conversation with Oscar Mogollón."

4. See further discussion under "The MICs (*Micro-centros de Inter-Capacitación*), p. 43.

5. Thirty years after the pioneering *Escuela Nueva* guides were first developed, materials of this kind are used increasingly in primary schools, especially in countries where multigrade classrooms are common.

6. Copies of the MECD/BASE Student Learning Guides can be obtained through the BASE website (http://www.aed.org.ni) or the website of the Nicaraguan Ministry of Education, Culture and Sports (http://www.MECD.gob).

7. Adapted from Richard J. Kraft, 1998, *Rural Education Reform in the* Nueva Escuela Unitaria *of Guatemala* (Washington, D.C.: AED).

8. Also sometimes called "Learning Corners" or "Learning Resource Centers," the latter are not to be confused with resource centers for teachers.

9. Teacher training and the MICs are further discussed in the following section: "The BASE Replication Experience," p. 39.

10. Per Dalin, 1994, *How Schools Improve (*London and New York: Cassell); H. Dean Nielsen and William K. Cummings, eds., 1997, *Quality Education for All: Community-Oriented Approaches* (New York and London: Garland); UNESCO, 2004, *Education for All Global Monitoring Report 2005* (Paris: UNESCO), pp. 65–71.

11. Nicaragua's education decentralization program has been the subject of a good deal of research and commentary. See, for example, Alec Gershberg and Robert Kaestner, 2002, "Lessons Learned from Nicaragua's School Autonomy Reform: A Review of Research by the Nicaragua Reform Evaluation Team of the World Bank" (Community Development Research Center, Milano School of Management and Urban Policy, New School University).

12. School decentralization in Nicaragua was subsequently mandated by law (*Ley de Participación Educativa*, "Educational Participation Law," enacted in May 2002). MECD policy calls for educational decentralization to the level of Nicaragua's 144 municipalities. Local participation in school administration and quality improvement is an important part of Nicaragua's overall strategy for decentralization of public services.

13. This corresponds to the third of the Project's four program objectives, "Increase Community Participation"; see "Background," pg. 2.

14. See also discussion under "Impact," pg. 29.

BASE and Bilingual Education

BASE II included a bilingual education component, the purpose of which was to "increase access to quality education by underserved populations." To accomplish this goal, the Project sought to provide services that integrated active learning with bilingual education, one of the strategic goals of BASE II. This integration is among the Project's notable successes, but achieving it took more money, effort, and persistence than anyone had anticipated.

Angelica Brown, Juárez and Associates,
BASE Atlantic Coast Regional Coordinator, RAAS

(Direct transcription from interview in English)

"[As a child in school] I was constantly corrected, the way I spoke. They said the language that we speak was a bad spoken English. And so for many years I was a silent student—very sad, and very frustrated, as if the Spanish [-speaking] kids were more intelligent, they were brighter. . . . Most of the time [when] I wanted to participate I would [think], 'Should I say this in English? Should I say this in Spanish?' If I wanted to say it in English, I had to think about my verbs, and my correct pronunciation, and that was a torture. And if I wanted to say it in Spanish, they kept correcting my pronunciation. The teachers would laugh, and say, 'How did you say that word?'—and not only with Angelica, with a majority of the Creole-speaking kids. And so that made me, for many years, a very timid student. . . .

"If I can contribute in any way to make a boy or girl have their education in an atmosphere that is one that respects their reality, I'm going to do it, because I do not want anyone to go though that experience. It creates a terrible complex. It takes years of hard work to free yourself. If we can create consciousness in teachers that they play a very important role in strengthening that identity, that's so important. Even at home—we have kids coming from homes where parents are also doing a lot of damage to that pride as a black boy or a black girl. Sometimes we also have to help the parents [understand]. And teachers really have a tremendous responsibility, not only sharing scientific knowledge, but also working on that other aspect."

Ethel Martínez, Juárez and Associates,
BASE Project Regional Coordinator, RAAN

"The main impact [of the Project on the bilingual schools of the Atlantic coast] is pedagogical. The difference between Model and non-Model Schools is so obvious and striking. Visit a Model School and immediately you notice the presence of materials. The use of materials. The way the teacher is working with the students. And the way the students are conducting themselves. When one enters another [non-Model] school, there's the teacher with her chalk and her blackboard, and there are the children copying it down in their notebooks."

Language Issues in Nicaragua

The Language Minorities of Nicaragua's Atlantic Coast

The eastern half of Nicaragua extends along 250 miles of southern Caribbean coastline and consists of two politically autonomous regions, the North Atlantic and South Atlantic Autonomous Regions ("RAAN" and "RAAS," respectively, for *Región Autonoma del Atlántico Norte* and *Región Autonoma del Atlántico Sur*). The RAAN and RAAS constitute half of Nicaragua's territory but account for only 11 percent of the Nicaraguan population.

The Caribbean coast of Nicaragua has suffered a long history of marginalization and neglect: 80 percent of the population live in poverty; the average rural adult has 2.1 years of schooling; 31.4 percent of the urban population and 44 percent of the rural population are illiterate (vs. a 21 percent national average for illiteracy).[1]

Of the six ethnic minority groups living in the two regions, the Miskitu indigenous people predominate in the RAAN, and Afro-Caribbean speakers of an English-based Creole predominate in the RAAS. The BASE Project provides intercultural-bilingual education services for Creole and Miskitu speakers as well as for speakers of Mayangna, the language of Nicaragua's second-largest indigenous ethnicity.[2]

Nicaraguan Language Policy

The Nicaraguan constitution includes strong guarantees of rights for the country's ethnic and language minorities. In addition to the right to regional self-governance, the constitution specifies extensive rights regarding first-language preservation and autonomy, including the right to use minority languages in schools in areas where those languages predominate, and the right to preservation-model (not transition-model) bilingual education programs in those schools.[3]

Brief History of the BASE Bilingual Education Component

Given these extensive constitutional rights, Nicaragua has an established bilingual education program, which the BASE II Intercultural-Bilingual Education (IBE) Component was designed to support. Twenty-eight of the 170 Model Schools are Intercultural-Bilingual Model Schools located in the Autonomous Regions. The BASE Project sought to provide the same services on the Atlantic coast that were provided in the Central and Pacific regions, with modifications and additional services aimed at achieving the Project goals of strengthening bilingual education and integrating bilingual-education and active-learning methodologies. The single most

> "There is absolutely no cultural conflict in the RAAN regarding active methodologies. On the contrary, the reforms are in keeping with Miskitu cultural characteristics, with the unity, the solidarity of that culture. An example: Miskitu communities plant crops collectively. There is a verb, *bakahmu*, in Miskitu, that means 'to harvest in a group.' The existence of the word *bakahmu* demonstrates how deeply embedded in the culture that concept is. Both the Miskitu and the Mayangna use that same word. On numerous occasions I have heard teachers explain small-group work to the children by saying [in Miskitu], 'This exercise is like *bakahmu*.'"
>
> —Ethel Martínez

consuming technical undertaking of the Project in the area of bilingual education was producing three bilingual versions of the Student Learning Guides and Teacher Training Modules in the three languages served by the component. Other special services included:

■ A series of three conferences on the state of bilingual education in the Autonomous Regions, and bilingual education policy and technical issues, hosted by the Project on the Atlantic

coast during BASE II's first year (1999–2000), for regional and national educators, education officials, and Atlantic coast decision makers and community leaders.

■ A series of technical workshops on bilingual education, led by international consultants, for Model School and other Atlantic coast teachers and Ministry personnel.

■ Atlantic-Pacific teacher exchanges (mentioned in the Foreword to this publication).

■ Collaboration with two international-assistance partner projects,[4] assisting the North and South Atlantic coast Normal Schools in developing a bilingual teacher curriculum, which had not existed previously at either school.

■ Semester-long residence *practica* (student teaching experiences) in very remote communities for selected final-year Atlantic coast Normal School students, a program that evolved into a sort of student-teacher Peace Corps.

This was the first time any such services had been provided in Nicaragua's Autonomous Regions. While the BASE II bilingual education activities were effective and well received, all were very expensive (see "The Cost of Intercultural-bilingual Education," at the end of this section) by the common measure of per-student or per-participant costs, compared to equivalent services provided by the Project in the more populous and accessible Central and Pacific regions of the country.

Over 2001 and 2002, the BASE II Annual Study showed that the Atlantic coast Bilingual Model Schools lagged significantly behind Pacific coast Model Schools as measured by BASE II program indicators. The most obvious cause of that early Atlantic-Pacific gap was the absence of bilingual programs and materials to address the needs of the minority-language school population. Other reasons (e.g., poverty, low health indicators) were outside the scope of the Project. Still others—difficult logistics, high transportation costs, and the long tradition of neglect—only made matters worse.

IBE Component Results

Despite these difficulties, the Atlantic coast deficit narrowed in the Bilingual Model Schools over 2002 and 2003, and by 2003, the Bilingual Model Schools were surpassing Central and Pacific Model Schools in some areas. The percentage of Bilingual Model School students attaining competency on a Spanish-as-a-second-language (SSL) reading/writing test was 89 percent in 2003, compared to 59 percent in 2001. Spanish second-language oral comprehension increased 29 percent in third-grade bilingual classrooms over the same period, with a 20 percent improvement in fourth grade. Participation in student government showed a huge increase in graded Bilingual Model Schools, from 0.2 percent in 1999 to 14.7 percent in 2003.[5]

The BASE Experience and Intercultural-Bilingual Education Issues and Problems

Second-Language Instruction for Teachers

Although Model School students made significant progress in Spanish second-language competency (see "IBE Component Results," above), Ministry research shows persistent, widespread, and long-standing Spanish second-language deficits among teachers,[6] especially in the RAAN. Based on the commonsense assumption that teachers will teach Spanish as a second language better if they speak Spanish well themselves, the impact of the BASE reforms might be stronger and more sustainable

> "We need to strengthen audiovisual technology [instructional media] in order to strengthen second-language teaching. I would say that in a future bilingual education project on the Atlantic coast, there should be a whole audiovisual component to help strengthen second-language instruction."
>
> —Ethel Martínez

> "You learn to read once. That is much easier if you learn to read and write the language that you speak. Our kids [need to] have the access to learn to read and write first in Creole, and later on, to learn English as a second language."
>
> —Angelica Brown

with future investments in systematic Spanish second-language instruction for teachers as well as students in Atlantic coast schools. Good precedents exist for the use of instructional broadcasting[7] and other instructional media in support of second-language instruction.

Problems in the Teaching of Beginning Reading

A challenge that is often discussed in the fields of bilingual education and applied linguistics is how to teach beginning reading to learners who speak a language with no standardized written form. Written Miskitu and Mayangna were standardized in the 19th century by Moravian missionaries, but for Nicaraguan Creole no phonemic standard has been established, although there are ongoing efforts to establish a written Creole.[8] Meanwhile, in the absence of standards, the BASE Project followed the established but unsatisfactory and unscientific practice of producing the bilingual versions of the Student Learning Guides in "Creole-influenced" standard English.

The Cost of Intercultural-Bilingual Education

Bilingual education is expensive. Programs must be planned with precision. Specialized learning materials must be developed. Together with their students, teachers in bilingual settings worldwide often suffer from poverty and marginalization, and those teachers must be trained or retrained in specialized skills. In some countries, urban minority populations need bilingual education services, but in others, including

Nicaragua, the target populations are rural, remote, and dispersed, adding still further to per-student costs.

On-site follow-up training at the Model Schools is an important part of all BASE II teacher training, remoteness of the schools notwithstanding. Generally, the more remote the school, the more on-site follow-up training is needed. BASE II Atlantic coast field operations cost between two and three times more in travel and staff time than the same operations in monolingual schools in the Central and Pacific regions.

Gathering teachers in central locations for training did not solve the cost problem. The Ministry's uniform per-diem rate for teacher workshop participants is one-third higher for the Atlantic coast than for the Central and Pacific regions. Atlantic coast teachers often spend two days or more en route to and from training activities, traveling long distances under difficult conditions. Reaching 18 of the 28 Bilingual Model Schools served by the Project requires a day or more of travel each way from the Project's Atlantic coast field offices.

The Rural Bilingual Model Schools are schools that for the most part had never received systematic services of any kind, from any source, before BASE II. Information available up to the start of BASE II in mid-1999 was not sufficiently specific or reliable to predict the costs of servicing Atlantic coast rural schools and to plan accurately for a sustained program of services for those schools. In fact, as a secondary result of servicing those schools, BASE II produced unique logistical information about exact school locations, travel means and routes, dangers and precautions, seasonal effects on routes and costs, and how to arrange for fuel, food, and overnight stays on specific routes and sites.

Endnotes

1. USAID/Nicaragua Education Report to Congress, 2003.
2. The other three minority languages spoken in Nicaragua are Garifuna, Ulwa, and Rama. Garifuna is an Afro-Caribbean language also spoken in coastal regions of Honduras and Guatemala. Fewer than a thousand Nicaraguans are native speakers of Garifuna. Ulwa and Rama are nearly extinct.
3. Bilingual education programs allow students to begin learning in their first language (usually a minority language), and to systematically learn a second language (usually the majority language). Language-preservation bilingual education is designed to preserve and strengthen learners' competence in their first language, as well as to acquire competence in the majority language and to encourage the active use of both languages in school and in daily life outside of school. Language-transition bilingual education programs are designed to gradually phase out learners' use of their first language, at least in school.
4. FOREIBCA (*Fondo Regional para la Educación Intercultural Bilingüe en la Costa Atlántica*), funded by the government of Finland, and Sahwan, funded by the Italian government.
5. Data are from the BASE 2003 Annual Study Report and are also discussed in the BASE II Final Report, http://www.aed.org.ni or http://www.glpnet.org/glpnet/en/our_world/nicaragua/baseII/CEDOCVirtual.htm.
6. Statistics and research data for the Nicaraguan school system can be accessed at the MECD website, http://www.mecd.gob.ni.
7. USAID-funded, AED-managed examples of instructional radio broadcast second-language courses for children include the Kenya Radio Language Arts Project, 1980–85; Radio English Bay Islands, AVANCE Project, Honduras, 1987–1990; and a radio Spanish course for young speakers of Mayan languages, Guatemala BEST Project, 1990–96.
8. The Autonomous Regional University of the Atlantic Coast of Nicaragua (URRACAN) is currently leading an effort to develop a standard for written Nicaraguan Creole with reference to phonemic standards for written Creole developed in San Andres, Colombia, whose Creole closely resembles Nicaraguan Creole.

Impact

BASE II conducted five Annual Studies, one each year from 1999 through 2003, the results of which confirm that BASE has had the intended impact on educational quality in the Model Schools supported by the Project.[1] Teachers are teaching and children are learning in new and better ways in the Model Schools. Teachers are applying the principles of active learning. Students are learning more actively, and their mastery of basic skills and content is improving. Large numbers of Model School parents—nearly 100 percent in many communities—are actively supporting the improvement of their children's schools. About 20 percent more Model School students stay in school and go on to complete their primary education than do students in other Nicaraguan public schools.

The following is a summary of the BASE II study methodology and the findings of the study. Interested readers are referred to the complete collection of original BASE II Annual Study reports.[2]

The BASE II Annual Studies

The BASE II Annual Studies were based on a methodology established in a baseline study conducted in 1998, the last year of BASE I. Over the course of BASE II a number of modifications in the original design were made to improve the quality of the study. Care was taken not to stray so far from the original design that the data were no longer comparable from year to year.

Violeta Malespín, Former Director General of Education, Republic of Nicaragua

"The BASE Project has been virtually the leader of educational transformation in Nicaragua since the beginning of BASE I in the [early] '90s. With BASE II [that leadership] became profound. . . . In my opinion, BASE II is where that leadership became well thought out and well organized."

The methodology used project indicators specified in a Monitoring Plan drafted jointly by USAID and the Project in 1999 and updated in 2001.[3] The indicators were designed to measure the following:

- Active student participation in the classroom
- Availability and use of textbooks and other learning materials
- Participation in student government
- Small-group learning
- Academic achievement in third- and fourth-grade Spanish and mathematics
- Oral and written Spanish-language skills in bilingual schools located in Nicaragua's Atlantic Coast Autonomous Regions
- School directors' and teachers' knowledge about and attitudes toward the new teaching methods and other reforms promoted by the Project

Thirty field researchers, trained and supervised by Project staff and consultants, collected data during the latter half of each year in a random sample of Regular System (urban graded), rural multigrade, and Bilingual Model Schools.[4] Instruments included classroom observation protocols, interview protocols, third- and fourth-grade reading and mathematics achievement tests, and, for students in the Bilingual Model Schools, Spanish-language tests. Teachers, school principals, parents, students, and local Ministry technical staff were also interviewed for the study.

Principal Findings

Active Learning
The first three indicators listed above—participation in the classroom, use of books and learning materials, and participation in student government—are core aspects of active learning. Each indicator was designed to measure specific changes in student and teacher behaviors. Data for these indicators were collected in third- and fourth-grade Model School classrooms. Each indicator is expressed as a value between 0 (minimum) and 100 (maximum).

Student-Initiated Interactions
Active student participation was defined for purposes of the study as the number of interactions—with other students, or with the teacher—initiated by

students in Spanish and mathematics classes. An "interaction" was defined as a verbal or nonverbal exchange between two individuals. An interaction was considered to end when there was a change in participants (e.g., when another student got the student's or teacher's attention, the teacher addressed another student or group of students, or the subject of the interaction changed). The observers counted the number of interactions, recording on a checklist the context, initiator, language used, gender, ethnicity, and responses of the participants in the interaction. Observations were made for five-minute periods alternating with five minutes without observations. During each classroom observation visit a total of 12 five-minute observations were made of Spanish (reading and writing) study, and 12 five-minute observations of mathematics study. The total observation time was sixty minutes for each of the two subject areas during each observation visit. The assumption was made that students, rather than the teacher or another person present in the classroom, would initiate up to half of the total number of interactions that take place (i.e., when students initiated half the interactions, the indicator

Table 1. Student-Initiated Interactions, 1998–2003

Percentage

Year	Graded	Rural multigrade	Bilingual graded	Bilingual multigrade
1998	26.3	27.3		
1999	42.5	52.7	28.4	28.4
2000	46.2	77	35.7	63.1
2001	56.9	86.9	68.3	45.8
2002	74.7	83.2		
2003	67.9	72.9	74.9	68.1

Legend:
- Graded
- Rural multigrade
- Bilingual graded
- Bilingual multigrade
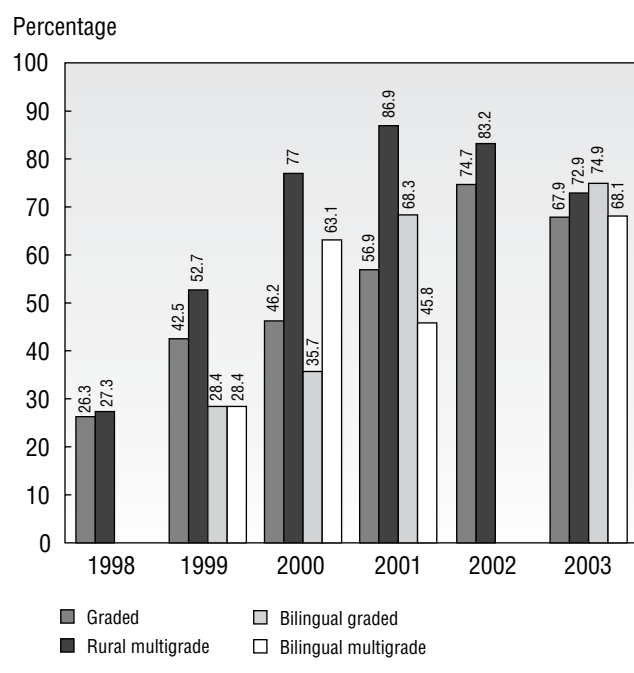
registered 100). The percentage of student-initiated interactions increased about 50 percent from baseline over the course of the project, confirming that concrete changes have taken place in Model School classrooms.

Table 1 shows the percentage of student-initiated interactions in Pacific and Central Region Model Schools by year and type of school (large urban graded schools, and smaller rural multigrade schools). Table 1 shows a steadily increasing trend in student-initiated interactions in both the larger, mostly urban Regular System Model Schools, and also in the smaller rural Multigrade System Model Schools. Student-initiated interactions in the rural Multigrade Model Schools more than tripled between 1998 and 2003. The bilingual schools showed similar increases.

Table 2. Active Student Participation Index (ASPI), 1998–2003

Index values

| Graded | Bilingual graded |
| Rural multigrade | Bilingual multigrade |
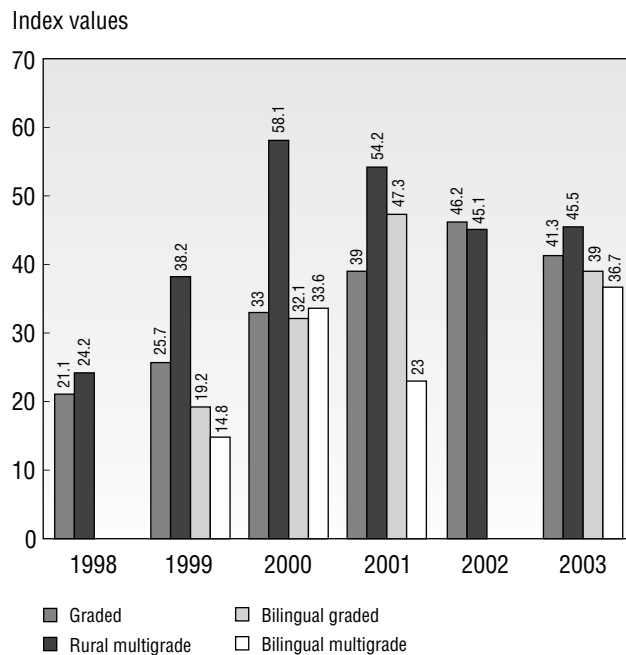
The Active Student Participation Index (ASPI)

The Project combined the student-initiated response figures and the two other active-learning indicators—use of learning materials and participation in student government—into a single Active Student Participation Index (ASPI) in order to analyze the effect of the three indicators together across the sample classrooms. The ASPI figures (Table 2) are the sum of the three active-learning indicators, divided by three (the index gives equal weight and importance to student-initiated responses, use of learning materials, and participation in student government).

To measure the use of learning materials, the field researchers counted the number of available learning materials, calculated the number of materials available per student, and counted the number of students using those materials in the observation classrooms. The product of those two ratios (available materials per student and the ratio of students using materials to the total number of students in the classroom) became the indicator for the use of classroom materials.

The figures for participation in student government were collected during teacher interviews. The interviewers asked teachers how many boys and girls participated in student government during the current year, specifying that the question was not limited to elected officers of the student government, but also included students who served on student government committees and participated in special activities sponsored by the student government. The student government indicator was calculated as a percentage by dividing the number of students who participated by the current enrollment in each classroom.

Similar to the figures for student-initiated interactions, the ASPI figures confirm that teachers are using the new methodologies and students are learning more actively. In the graded (Regular System) Model Schools, the overall trend has been an increase in the ASPI index, from a low of 21

> Teachers are using the new methodologies and students are learning more actively.

percent in 1998 to a high of 46 percent in 2002. Similarly, the rural Multigrade Model Schools have seen overall increases. The index for the graded Bilingual Model Schools rose from a baseline of 19 percent to a high of 54 percent in 2001 and was close to 40 percent in 2003. The bilingual multigrade schools have risen and held well above their 14 percent baseline, fluctuating over 2000–2001 and holding steady at 36 percent through 2003.

Small-Group Learning

The incidence of students learning together in small groups gives a clear indication of whether the Project reforms were taking hold. Project data confirm that the context for classroom interactions has increasingly consisted of small-group settings.

In the Central and Pacific Region Multigrade Schools, the trends for small-group learning were strong, rising above the 1998 baseline in the following year and remaining high throughout the Project (Table 3). The incidence of small-group work rose and remained above baseline in the larger graded Central and Pacific Region Model schools over the last three Project years, but was weak over the first three years and remained consistently well below the figures for the multigrade schools.

This difference between graded and multigrade schools was not surprising. In multigrade schools, a teacher's ability to cope can depend on the success of small-group study.[5] Although small-group study is also a useful technique in single-grade classrooms, teachers facing severely overcrowded single-grade classrooms in large urban schools often have more trouble than rural multigrade teachers, at least at first, implementing small-group study and other active-learning innovations.

Work in small groups also increased steadily in the graded Bilingual Model Schools, reaching a high of 58 percent in 2003. Contrary to the expectation discussed immediately above, the bilingual multigrade schools used small-group work less than the bilingual graded schools (small-group work in the

Table 3. Small Group Learning Contexts, 1998–2004

Percentages
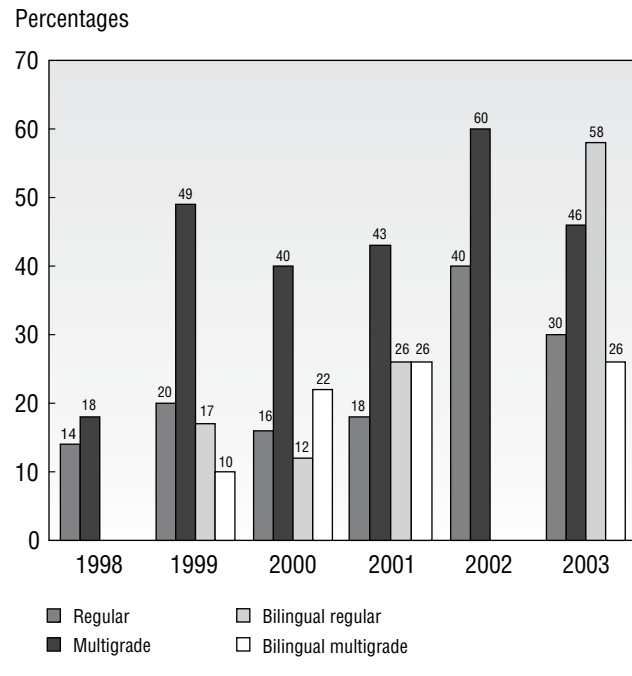
bilingual multigrade classrooms remained steady at about 25 percent through 2003). This and other indicators were probably affected to some extent by the extreme remoteness and impoverishment of the rural communities where the bilingual multigrade schools are located.[6]

Academic Achievement in the Central and Pacific Coast Schools

Beginning in 2001, BASE gave third-grade Spanish language-arts and mathematics achievement tests in the Model Schools as part of the Annual Study. These tests were developed by del Valle University (UDV) in Guatemala for use at the third-grade level in Guatemalan multigrade schools and adapted for use in third grade[7] in Nicaragua.

The 2001 UDV test baseline shows solid mastery patterns in the Model Schools. The test results reveal an impressive increase in mastery in both regular and multigrade classrooms from 2001 to 2002 (Table 4). Math and Spanish-language skills continued to improve through 2003. For purposes

Test results show spectacular increases in mastery.

of the Annual Study, the Project defined "mastery" as 60 percent or more items correct on the tests. By 2002, both graded and multigrade third-grade students were showing large increases in mastery over the 2001 baseline in Spanish—5 percent in graded schools and 22 percent in the multigrade sample. In mathematics, the increase over baseline more than doubled in the graded school sample to 45 percent mastery, and in the multigrade sample rose from 7 percent to 47 percent. As can be seen in Table 4, these trends continued through 2003.

Academic Achievement in the Bilingual Schools

Oral and written Spanish tests were given in the Bilingual Model School samples in 1999, 2000, 2001, and 2003.[8] Because students in the Bilingual Model Schools of the Atlantic Coast Autonomous Regions are native speakers of languages other than Spanish, academic achievement in those schools was tested with different tests from those given in Central and Pacific Region schools.

Spanish-Language Skills in the Bilingual Schools

Two tests were administered in the bilingual sample classrooms, one to measure the ability to understand spoken Spanish, the other to measure second-language reading and writing in Spanish. The results show large increases in 2003 over the 2001 baselines (Tables 5 and 6).

Table 4. Percent of Third- and Fourth-Grade Students Reaching Mastery in Spanish and Mathematics, Central and Pacific Region Schools, 2001–2003

Percent

Spanish (graded schools)   Spanish (multigrade)
Math (graded schools)   Math (multigrade)
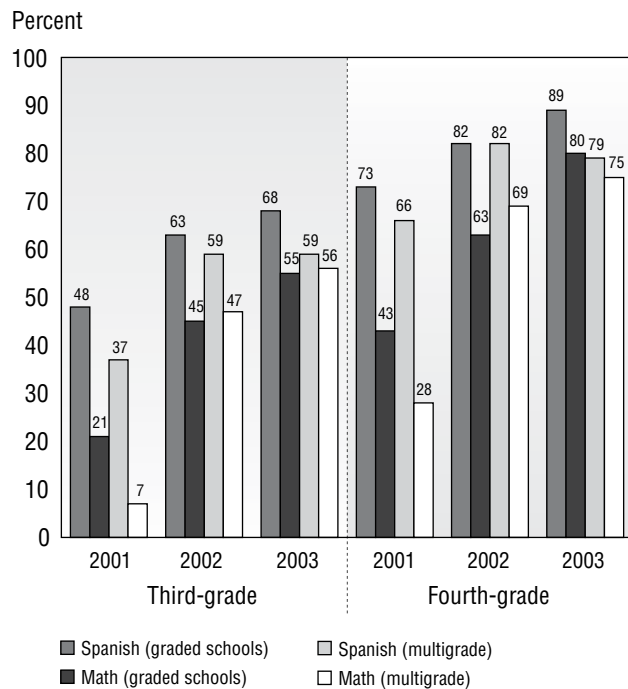
Table 5. Oral Spanish Mastery, Bilingual Model School Sample, 2001–2003

Mastery percentile

Bilingual graded
Bilingual multigrade
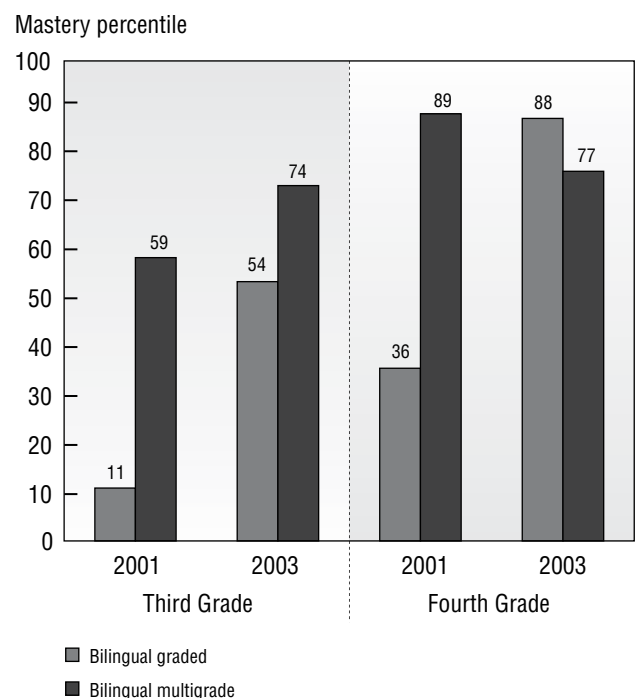
Table 6. Second-Language Reading Comprehension and Writing Mastery, 2001–2003

Percentage

Legend:
- ■ Bilingual graded
- ■ Bilingual multigrade

Table 7. Percent of Parents Participating in School Activities

Percentages

Legend:
- ■ Graded
- ■ Multigrade
- ■ Bilingual graded
- □ Bilingual multigrade

teacher aides). Both teachers and parents were also asked specific questions to provide data for this indicator.

Parental participation in Model School activities is one of the most dramatic successes of the BASE Project. Data on parental participation were not collected for the 2003 Annual Study, but the 2002 results show very strong upward trends.[9] Table 7 shows that parental participation in school activities has been in the 70th percentile or higher since 1999, was approaching 100 percent by 2001, and remained about the same in 2002 in the both the Regular System and the Multigrade schools. The levels remained high in 2003.

Parental Involvement of Any Kind

This indicator is a very general indicator that includes all of the reasons parents visit a school. The most frequent type of parental involvement includes school maintenance, construction, preparing meals, etc. The next two indicators are more specific subsets of the data measured by this first indicator.

Community Participation

Detailed information was gathered in the Annual Study questionnaires on the ways parents become active in support of the Model Schools. The first indicator measured the percentage of parents involved in school activities of any kind (school repair and construction, cleaning, food preparation, etc.). The second measured parental participation in the School Councils (*Consejos Escolares*). For this indicator, the researchers asked teachers and parents whether or not they regularly attend School Council meetings. The third indicator measured the percentage of parents who participated in learning-related classroom activities (e.g., making teaching materials or serving as

> Parental participation in Model School activities is one of the most dramatic successes of the BASE Project.

Parental Attendance and Participation in School Councils

In both the graded and multigrade schools (Table 8), parental attendance and participation in School Councils also dramatically increased over the 1998 baseline and remained high through 2000, dropping off somewhat in 2001 and 2002. The drop was very small in the graded schools and somewhat higher (9 percent) in the multigrade schools. Nevertheless, almost two-thirds of the parents in graded schools and over one-half of parents in multigrade schools reported participation in School Councils.

Table 8. Percent of Parents Participating in School Councils

School type
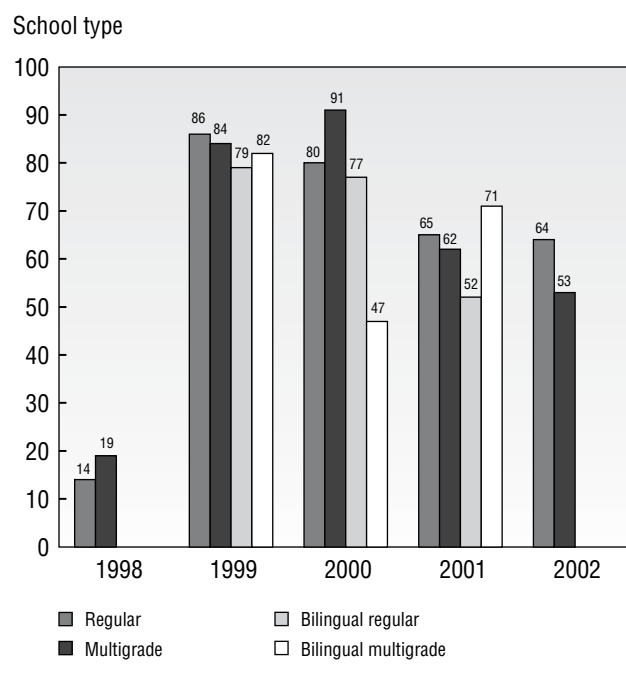
Parental Participation in Classroom Activities

A new indicator was formulated in 2000 to measure parental involvement in classroom activities (Table 9) because the indicators for parents attending School Council meetings and participating in school activities had reached such high levels,. In 2000, the highest level of parental support for classroom learning activities was 65 percent. The very high 2000 levels dropped by nearly half in both graded and multigrade schools. In 2002, the downward

Table 9. Percent of Parents Participating in Classroom Activities

School type
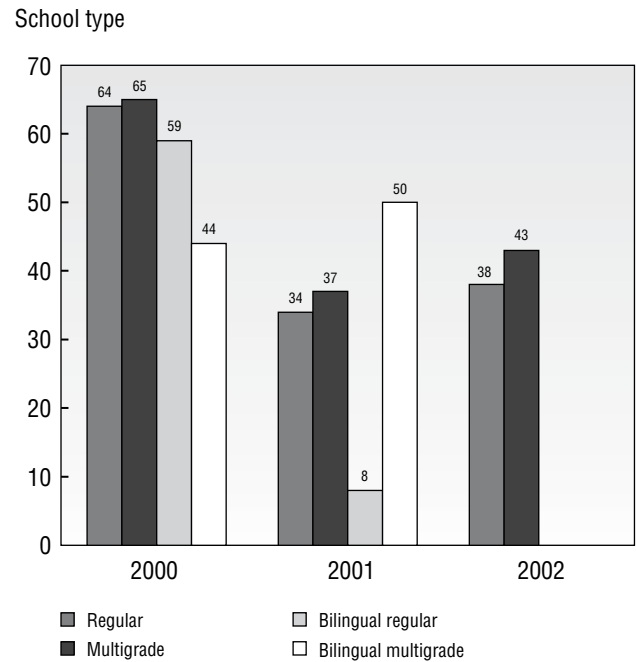
trend was reversed in both regular and multigrade schools, with a modest increase of 4 percent in the former and 6 percent in the latter. There was an oddly precipitous drop in the classroom participation indicator in bilingual grade schools in 2001. This was apparently an effect of that year's random sample.

Student Completion Rates

The purpose of the student completion indicator is to measure the degree to which the BASE II interventions have increased students' persistence in the Model Schools. Completion is a measure of the internal efficiency of an educational system and it also provides a proxy measure for achievement based on the assumption that staying in school longer results in increased learning.

> Model School completion rates are about 20 percent higher than the national average.

Table 10. Model School and National Completion Cohorts

	National Schools			Model Schools		
	1997–2001	1998–2002	1999–2003	1997–2001	1998–2002	1999–2003
Female	50.6	54.6	53.0	63.4	66.3	66.0
Male	44.0	47.9	49.8	69.6	75.8	79.2
Both	47.2	51.1	51.3	66.4	70.8	72.3
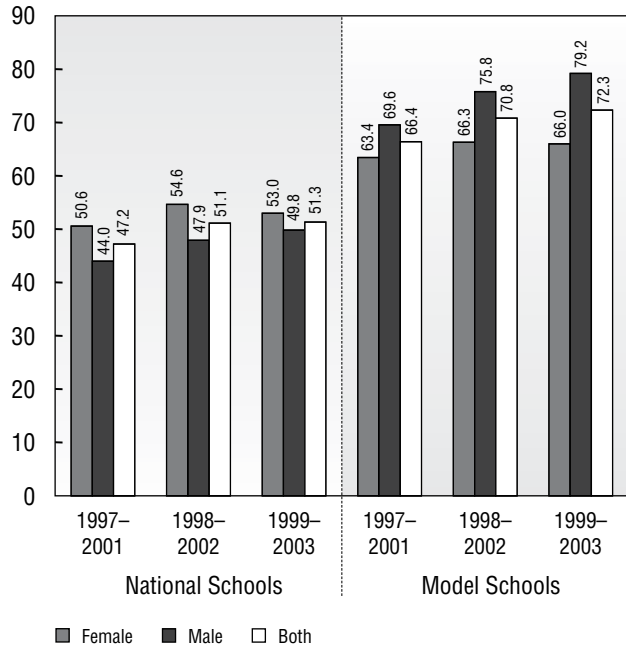
Table 10 shows the percent of students who reach fifth grade without repetition for all primary schools and all Model Schools, using the apparent cohort method,[10] Project data, and the available data for the rest of the primary school system. The data reveals that Model School completion rates are about 20 percent higher than national average completion rates; therefore, the Model Schools keep more enrolled students in school longer.

Endnotes

1. BASE II helped set up a nationwide network of 170 Model Schools as a key part of a system for expansion and replication of the reforms promoted by the Project. The Model Schools serve as training and observation sites for teachers and school administrators, and are intended to exemplify for other schools how the reforms work.

2. Copies of BASE II reports will be available online at http://www.dec.org/index.cfm?fuseaction=DEC.Search_Sector&select_Category=Basic%20Education&select_Country=Nicaragua&StartRow=11&httpReferer=http://www.dec.org/default.cfm?CFID=756563&CFTOKEN=99372087

3. Ibid.

4. For information about the Nicaraguan school classification system, see Annex I.

5. See further discussion under "How BASE Works," pg. 7.

6. See further discussion in "BASE and Bilingual Education," pg. 23.

7. The BASE Project decided that it would be of interest to administer these same tests to fourth graders, and did so from 2001 through 2003. Fourth-grade results are also presented in the mastery percentage table below, although the discussion is confined to third-grade results. Fourth-grade results were similar to and in most cases (unsurprisingly) exceeded third-grade results.

8. The tests given in 1999 were developed in 1997 under BASE I. New tests were designed and used in 2000. A few modifications to those tests were made in 2001. In 2004, third- and fourth-grade students on the Atlantic coast were also given translated versions of the del Valle University mathematics achievement tests. Preliminary results of the translated mathematics tests do not appear to be much different from results in Central and Pacific Region schools.

9. In 2003 the Project conducted an ethnographic study of the Model Schools, which includes extensive qualitative data on parental participation.

10. The primary school completion rate is the percent of students in a cohort entering school in a given year who go on to complete sixth grade. Some students will go through the six grades without repetition and graduate in six years; others will repeat one or more grades. Because data on public school enrollment covering the BASE II Project were incomplete or missing, the Project was forced to define the completion indicator as reaching fifth grade—i.e., that a student has been promoted from fourth grade and enrolled in fifth.

    The ideal way to measure completion rates is to monitor the annual progress of a cohort of students from the time they enter primary school until they complete sixth grade. Completion rates can also be calculated retrospectively using past enrollment, promotion, and repetition data. However, this method requires a reliable school-records system based on individualized student information. When individual student records are not available or when there are no data on repeaters, as is the case in Nicaragua, completion rates can be assessed using the "apparent cohort" method. The apparent cohort method is based on enrollment in first grade for any given year. Completion rates are calculated as a percentage of first-grade enrollment. It is assumed that the decrease from one grade to the next is due to student dropout.

BASE: the Replication Network

Nicaragua's Commitment to Education Reform

The Government of Nicaragua has made strong commitments to education reform. In a series of meetings and press briefings in mid-2002, Nicaraguan President Dr. Enrique Bolaños and Education Minister Dr. Silvio De Franco announced a set of sweeping GON/MECD long-range education reform initiatives. The education reform goals were promulgated in a ten-point strategic plan that emphasized life-skills education (*Educación para la Vida).* The ten-point strategic plan was developed during the first half of 2002 under the Minister's personal leadership by MECD senior staff in consultation with BASE II and other education-sector project representatives. The expansion of BASE II classroom methodology and community participation reforms to the entire primary education system was prominent in the 2002 MECD reform platform. A point of emphasis in Minister De Franco's guidance in planning the reform initiative was to avoid "reinventing the wheel"—i.e., the government wanted to identify successful existing interventions and replicate them to avoid a common tendency in government-sponsored reform efforts, which is to reject all existing programs indiscriminately and start over.

This strong commitment on the part of the government took specific shape beginning in late 2002, when the MECD began planning a fifty-school pilot program—*Centros de Aprendizaje y Progreso*

(*CAP*) ("Schools for Learning and Progress")—for the purpose of incorporating the maximum possible combination of available reform interventions into a single program. In addition to the classroom quality and community participation reforms introduced by the BASE Project, the CAP reforms included infrastructure improvements, stay-in-school family scholarships, health and environmental education curriculum content, a strengthened school food program, and electronic learning.

Replication in Action

BASE supported the development of a network of training and support mechanisms designed to func-

> "At the present moment, the Ministry of Education is taking up the successful BASE Project experiences . . . in educational quality, the quality of learning, and community participation, and defining a new model for the Nicaraguan school—[defined as] a temple of learning and progress [the CAP program]—which is nothing more and nothing less than an enriched version of the Model School program."
>
> —Violeta Malespín

"The key to real sustainability is local networks. Local and regional networks. Networks of schools and teachers. Networks strengthen existing capacities. Networks give an added sense of strength, relevance, and permanence to the whole reform enterprise.

The greatest service that a project can provide is to help establish networks where none existed, by establishing local teacher-support groups or quality circles. Permanent communication, integrated working relationships, local alliances of teachers and administrators—good projects are built on local networks. You can and should have overlapping networks among Master Teachers, Master and non-Master Teachers, among Model Schools, among Model Schools and non-Model Schools, and among Model School Directors and non-Model School Directors.

At the start of a project you need to look for where networks and alliances already exist. Maybe the most important thing to look at is logistics—geography, distances, local transportation. Networks are natural creations along convenient lines of communication and transportation that already exist, where there are reliable bus lines, market towns where teachers from outlying schools are accustomed to go anyway.

It's important to establish or restore a flexibility principle. Collegial, fraternal peer networks—as opposed to hierarchical or supervisory structures—are what promote flexibility in development and reform.

It's also very important to look for strategic connections between entire projects when there are several international donor education projects going on at the same time. These are networks, too."

—Oscar Mogollón

tion together as a decentralized, locally sustainable, and replicable system. The purpose of the network is to enable the Ministry to progressively expand the classroom and community reforms in use in the 170 Model Schools to several thousand schools over the next five years (2005–10) and eventually to all of Nicaragua's 7,000-plus primary schools. The following section briefly describes each element of the BASE Nicaragua replication network.

The Model Schools

Model Schools are a standard tool in education reform. A Model School system is a group of schools set aside to exemplify for other schools how

educational reforms work when they meet preset standards conforming to the desired outcomes.

The BASE Project local staff and Ministry counterparts estimate that approximately 110 of the 170 Model Schools at present satisfy the following criteria for serving as centers for expansion:

- Capacity to generate innovations independently
- Strong Community Councils and Student Councils
- Meeting sites for successful MICs
- Teachers thoroughly qualified in process-based learning, experienced in developing learning materials, and able to teach these skills to other teachers

> "Each one of the 170 Model Schools is different. Each is unique. [So] we really can't talk about 'replicating' in the strict sense of the word, [because] we can't do exactly the same thing everywhere. We work from a model, but the model is very flexible. In the final analysis, no Model School is a replica of any other. Each school develops within [the context] of its own characteristics, its own strengths and weaknesses, and at its own pace."
>
> —Jacqueline Sánchez

- Students with successful learning habits able to contribute to the construction of reform
- Proven track records in developing classroom and teacher-training materials
- Convenient geographical locations for extending reforms to other schools
- Established local democratic mechanisms for information sharing and decision-making

The Normal Schools and The Annex Schools

Nicaragua's Normal Schools are specialized high schools that produce certified primary school teachers. Normal School students do their practice teaching at Nicaragua's Annex Schools, all of which are a subset of the Model School network.

The Annex Schools were an important focus of BASE II support for preservice training and technical assistance. One objective was to align the student teaching programs at the Normal Schools as closely as possible with the classroom innovations that student teachers saw in the Annex Schools. As a result of these efforts, Nicaragua's eight Normal Schools and 32 Annex Schools have become reform leaders in their own right and are an important part of the replication network.

Training Modalities

The BASE classroom reforms are accomplished by means of its teacher training, carried out in close coordination with the Ministry. BASE teacher training takes four forms:

1. Training workshops
2. Teacher exchanges
3. Classroom training visits
4. Follow-up visits

Each of these is discussed below.

Training Workshops

BASE I helped found the Ministry's National Training Network Office. During BASE I, the Project supported massive two-week inter-semester training exercises twice yearly for Nicaragua's entire corps of 25,000-plus primary school teachers. Over the ten years of the BASE Project, the Project and the Ministry moved together from a reliance on massive training to small-scale, decentralized peer training. At present, the Ministry provides six decentralized "Pedagogical Events" (*Jornadas Pedagógicas*) with Project technical assistance and partial funding.

The *Jornadas Pedagógicas* are annual events scheduled in the Ministry's school calendar for teacher professional development and administrative housekeeping. Teachers receive information on new programs, policy and procedural updates, as well as technical training. With support from the BASE Project staff, the Ministry uses the *Jornadas*

"Although a reform project requires the participation of innovative teachers, you can't have a project that consists entirely of naturally innovative teachers because there aren't many such teachers to begin with. What you want is a program with innovative teachers and other teachers, and a program strategy that arranges for the other teachers to work with the innovative teachers and learn from them.

"A big factor that leads to success in constructing a successful reform program is to choose the program participants with great care, and to put all possible effort and attention into identifying talented, creative, innovative teachers, cultivating those teachers, and arranging for those teachers to become reform leaders. You arrange rounds of observation visits to the schools with the highest concentrations of those Master Teachers. The schools that make the fastest progress will be the fortunate schools blessed with the best natural teachers. The development effect is achieved, and all [of] the schools make progress, by focusing observation and training on those naturally 'pre-developed' schools. You take teachers who are gifted to begin with and you specially cultivate and train those teachers as your models, your examples, of the open, active methodologies—which are the methods that gifted teachers use or are inclined to use anyway. And then you use project resources to bring in other teachers from neighboring schools to watch your Master Teachers work. You're trying to bring about change by causing a kind of methodological contagion."

—Oscar Mogollón

Pedagógicas to introduce new teachers to the basic principles of active learning and offers all primary school teachers workshops and discussion sessions on issues and concerns affecting Nicaragua's primary education system.

Teacher Exchanges

At present the Project and the Ministry conduct teacher exchanges twice yearly over two six-week rounds (the first round from mid-February through March and the second from mid-April through May).

The purpose of the exchanges are to give less experienced teachers opportunities to observe Master Teachers at work in their classrooms. The Ministry Municipal Delegate in charge of the schools involved in each exchange arranges for substitutes to cover visiting teachers' classes and provides official approval for the exchange.

The exchange visits begin with a quick orientation meeting before school starts. Visiting teachers spend the entire *jornada* (school day) in classrooms, observing more experienced teachers at work. The exchange visit concludes with a general meeting to give observing teachers an opportunity to ask questions and exchange ideas with the Master Teachers they have just observed.

Classroom Training Visits

Classroom training visits are one-on-one sessions for the purpose of tutoring, coaching, and mentoring teachers, individually or in small groups, about the classroom reforms promoted by the Project.

BASE Project staff conducted classroom training visits with Ministry technical specialists (*Técnicos*) attached to the Departmental and Municipal Education offices. A core group of 44 *Técnicos*, serving the 103 municipalities where the Model Schools are located, received special training-for-trainers sessions and worked closely with the BASE staff over the course of BASE II. As the five-year expansion phase continues, those 44 *Técnicos* are now also serving as trainers of other *Técnicos* in Nicaragua's 43 other municipalities. During the first three years of the BASE II Project, training visits were usually conducted by two-person teams consisting of a Project staff member and a *Técnico*. The training teams tried to visit every Model School at least twice a month, and more often as needed. Over the last two Project years, the majority of

> "The concept of follow-up is completely different from the concept of supervision. Too often the idea seems to be that orientation should be given from the top down. The vision that I have acquired from my own observations and experience is an *alliance* between the schools and the advisers. Advisers can't make a difference unless they have some decent schools to work with, and the schools can't advance without good advisers. What's required is the marriage of the two, schools and advisers. This is an interdependence that produces creativity and autonomy. The teacher won't make progress if the authorities don't let her. With their role of authority and responsibility, the educational authorities can either inhibit the teacher, or they can make possible his or her professional growth in an atmosphere of innovation."
>
> —Oscar Mogollón

Model Schools received follow-up visits about once a month.

Although the BASE training visits follow no particular formula, visits often consist of a *Técnico* or Project staff member meeting briefly with a teacher, observing the teacher at work in the classroom, and meeting again with the teacher following the observation. With the teacher's permission, the trainer may co-teach with the teacher or briefly take over classroom instruction while the teacher observes. Just as in the classroom methodologies promoted by the Project, in which teachers try to tailor instruction to the needs of each child, the *Técnicos* and Project staff have also sought to use classroom training and follow-up visits to tailor their training of teachers in the new methodologies.

Follow-Up Visits

BASE also conducts follow-up visits, which have the same general purposes and characteristics as the training visits, but emphasize maintenance and permanent professional development rather than initial instruction. During a follow-up visit to a school, a trainer usually works with several teachers, but may spend the entire visit working with a single teacher, as needs dictate. The follow-up visits will eventually become a permanent service the Ministry provides to teachers and a permanent part of the duties of the *Técnicos*.

The MICs

The Nicaragua system has about 1,300 "MICs" ("*Micro-centros de Inter-Capacitación*"). The MICs are "quality circles" for teachers: local, semi-autonomous teacher organizations for peer training and group problem-solving. The MICs are important to grassroots sustainability and teacher-led replication of classroom reforms. The Interactive Training Modules were designed mainly for use by teachers in meetings of their MICs.

The size and structure of the MICs vary greatly. A typical MIC consists of 30 to 40 members, but a few have as many as several hundred members. The

> "A guiding principle in BASE II has always been to trust in teachers' capabilities. Peer training and the development of teaching methods have been democratized by means of support materials, learning materials, and the sharing of successful classroom experience. In this way it has become possible for teachers to apply commonsense to dry theory. Our Model School teachers have learned to record their experience in written form, to document their own applied pedagogy, to question themselves constantly regarding their teaching practices, and to arrive at solutions to teaching problems with the help of local Ministry personnel."
>
> —Oscar Mogollón

MICs are under the overall authority of the National Training Network Office in the Central Ministry. The Municipal Delegation (Education) Offices are responsible for the practical administration of the MIC or MICs in each municipality. The Municipal Delegation Offices share daily administration with rotating MIC officers elected by the membership of each MIC.

Four or five half-day MIC meetings per year appear in the annual education calendar and teachers are given time off to attend the meetings. The Project encourages MIC members to call after-school meetings on their own in addition to the meetings scheduled by the Ministry. When teachers are convinced that their MIC is really useful to them, they call meetings themselves to get help from each other on specific teaching problems or local school issues.

Patricia Gómez, Director, Global Development Alliance Nicaragua partner program

"Our partners and other sponsors are interested in replicating this methodology because they witness the high level of organization in the community and accountability in the use of donations."

The Resource Centers

BASE II provided 30 Teacher Resource Centers, installed in the Normal Schools and strategically located Model and Annex Schools. The purpose of the Teacher Resource Centers are to make available to teachers the equipment and supplies they need to develop classroom materials in accord with the constructivist teaching the Project promotes. A group of Master Teachers from the Model Schools used the Resource Centers to develop pilot versions of the Student Learning Guides and Teacher Training Modules that were later published for nationwide use. Each Resource Center is equipped with a PC and printer, photocopier, basic audiovisual equipment, including a video camera, VCR player and monitor, portable cassette recorder, digital 35mm still camera, and audiotape player/recorder, presentational equipment, including an overhead projector, flip charts and stands, and expendable supplies.

Key Counterparts for Replication and Sustainability

The counterpart educators who participate directly in training are the key agents for replication and sustainability. In the case of the BASE Project, those key agents are the Model School Master Teachers, principals and assistant principals (*Directores* and *Sub-directores*), and the departmental and municipal *Técnicos*. The Municipal Delegation Offices and the mayor's office are the administrative entities with the main day-to-day responsibility for Nicaragua's schools under the government's push toward decentralization and democratic local empowerment. In each municipality, the *Técnicos* work out of the Municipal Delegation Office and report to the municipal delegate, who in turn reports to the mayor.

The Role of the Private Sector in Replication and Sustainability

Public Investment in Education
In 2002, 11.4 percent of the national budget of

Nicaragua, or 3.9 percent of the Nicaraguan gross domestic product, was spent on primary and secondary education. This level of investment is inadequate to support a strong system of public education and might seem to belie the strength of Nicaragua's commitment to education reform.[1] However, the issue of public investment in education in Nicaragua is complicated. Nicaragua is a young democracy. The country's leading educators and other forward-looking national leaders are engaged in policy dialogue with international donors to press for increased investment of Nicaraguan public funds in education. Meanwhile, all agree that the urgent business of education reform cannot wait while the relatively slow process of bringing about major shifts in public policy unfolds.

The Global Development Alliance

With the encouragement of international donors, developing nations are increasingly engaging in organized fundraising and turning to the private sector to supplement public funding for education. In 2001, U.S. Secretary of State Colin Powell announced a new "business model" for USAID, called the Global Development Alliance (GDA). The GDA is a worldwide effort to leverage private-sector funding, expertise, and technologies in support of international development.

The GDA/Nicaragua Model School Expansion Project

Education is an important part of the GDA effort. In September 2002, USAID awarded a contract to AED to carry out a Public-Private Alliance in Education project to promote public-private

> "I visited the Model Schools and decided what we want is for our schools to become Model Schools."
>
> —Lorena Zamora,
> Chairperson, Education Committee,
> American Chamber of Commerce of Nicaragua

partnerships in support of five international education initiatives. One of the five is the Global Development Alliance/Nicaragua Model School Expansion Project, a two-and-one-half-year effort to expand the BASE Model School reforms to non-Model Schools. The partners are the American Chamber of Commerce of Nicaragua (Amcham) and the American Nicaraguan Foundation (ANF), a non-governmental organization (NGO) specializing in U.S. fundraising for Catholic schools serving impoverished communities in Nicaragua.

The specific objective of the Model School Expansion Project is to incorporate 130 impoverished primary schools into the Model School system. Amcham and ANF committed to providing a minimum of US$1 million both in direct and in-kind counterpart support for these schools, including learning materials, textbooks, school supplies, sports equipment, food, school building improvements and repairs, school building improvements, and funding and technical assistance for community school-support projects, among other items. Over the life of the project, it is expected that the private sector will provide more than US$5 million in donations for beneficiary schools.

The GDA Model School Expansion Project is providing technical assistance and training to introduce the most critical components of the Model School program to its own schools. It is also generating synergies. For example, Amcham officials persuaded the Emergency Social Investment Fund (*Fondo de Inversión Social de Emergencia/FISE*) to obligate public-sector money to hire and pay the salaries of eight trainers, selected because they had previous experience with BASE, to work with the beneficiary-school teachers and communities.

The project began with GDA schools visiting BASE Model Schools in order for directors, teachers, parents, and students to learn from their peers about the process of becoming a Model School and learn more about the program's impact. With this example in mind, the GDA participants were encouraged to

begin implementing some of the simpler reforms even before training began. After a year in the project, the GDA schools again visited the BASE schools to exchange experiences.

The GDA schools have taken ownership of the reforms much more quickly then expected. Within a year, changes were very visible and most schools were practicing the basic components of the Model School program. While there is limited quantitative data available, anecdotal evidence suggests that the quick pace of the replication of GDA schools is attributed to parents and teachers who were familiar with the success of the Model School program and held that vision for their own schools. In addition, the GDA project is able to capitalize on BASE's investments in materials, experience, and trained staff.

The GDA schools have also led to replication among neighboring schools. Some directors in GDA schools are responsible for several schools and have been introducing the program to their other schools. Because Nicaragua uses a two-shift system, many teachers work at two schools, and these teachers have helped bring some of the innovations into their other schools. Having seen the impact of the program, teachers in neighboring schools have participated in GDA training sessions at their own expense.

GDA partners, in addition to providing financial support, have taken ownership of the Model School reforms, enhancing sustainability and replicablity. A coffee company, Cisa Agro, learning of the Model School through ANF, hired a facilitator to introduce the program in 11 more schools. An NGO, the Father Fabretto Foundation, was introduced to the program through an Amcham-supported school and decided to implement the program in an additional ten schools. The Catholic Church, impressed by progress at many ANF schools, wants to expand the program to 48 additional schools. ANF has clearly become a believer in the program and is seeking

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Views from Cristina Pereira
Project Staff, American Nicaraguan Foundation

Escuela Veracruz is a school that has improved tremendously. Two years ago, it was a dreary oversized public school with teachers who yelled at the kids and old desks blocking unusable toilets. The Ministry of Health was threatening to close the school because of the problem with the toilets. Parents were afraid to come to the school because they found the principal unwilling to listen to them. I was scared to go to the school, because all the principal did was ask for donations.

Today, it is almost impossible to imagine that scenario. Through repeated visits to other model schools, the teachers and principal discovered that they had the potential to create a positive, exciting learning environment. Over the past year, they have invited the parents to be an active part of the school community, organized their students in productive groups in and out of the classroom and are so dedicated to having significant materials ready for each class that 90% of the personnel is working with parents on the weekends to have new hands-on activities for the students each week. In this case, the teachers took the initiative and parents who had been wanting to get involved for years latched on quickly.

A turning point was obtaining a legal document for the school property. ANF wanted to make sure they were on legal land before executing the new toilet project. The principal and several parents worked for a year with the mayor's office and lawyers in order to get the legal document. When ANF approved the project, they were incredibly happy and helped with some school money to give the toilets a nicer, more polished look. I am amazed at how the parents and students are taking care of these toilets, as if they lived in a palace! This project showed them that cooperating with each other is worth the trouble. Now, this attitude has spread to the classes and the results are phenomenal.

Escuela Veracruz has surprised us with its innovation in the school business project.

They decided to make wicker chairs, since a handful of parents are experienced in wicker work. Other parents and teachers wanted to make seat cushions to enhance the value of the chair. One of the parents who works in a free zone (maquila) outside of Masatepe noticed that the company burns the factory's extra unused cloth. The school wrote to the company to see if they would donate the cloth scraps, and now they are making the seat cushions at much lower costs!

The student government runs a very successful trash control program. The school used to be filthy and now it is generally clean (especially considering it has 600+ students). When I met with the students from the student government, they were so excited that their school was cleaner that they wanted to spread these good habits to the whole town of Masatepe. They wanted to lobby the bus companies to put up signs so people would stop throwing trash out the windows! (I don't think they have done so yet.)

"The ANF-supported Catholic schools have a reputation for being very conservative and traditional about education. What we've observed, though, is that as soon as the teaching nuns see how active learning can help them, they become better implementers of the methodology than other teachers. The children who attend these subsidized Catholic schools are very poor and deprived. So when the nuns catch on to how much the new methodologies can help them, help their work, help the children learn, help ease the hard lives of the children, then they become our strongest partisans."

—Patricia Gómez

funding to take it to other schools. Companies that sponsor the GDA schools as part of the Amcham program and other donors are interested in replicating the methodology because they have witnessed the high level of organization in the community and the accountability in the use of donations.

In addition to being an effective and efficient way to replicate the Model School program, the project has benefited from the ideas and practices of the private sector. For example, Amcham introduced a small business project that provided training to parents, teachers, and school directors and gave schools small grants to create small businesses. Schools developed business plans and within months were selling their first products. Students participated actively in the business activities and learned new skills while gaining an introduction to business.

While additional support is needed to solidify the reforms, the project is demonstrating that the Model School program can be replicated within a relatively short time frame and at minimal cost and that private sector partnerships can help support and hasten the process.

Planning for Public-Private Partnerships

Investment in education makes sense for the private sector because economic growth depends on an educated workforce,[2] but public-private partnerships in support of education do not necessarily form on their own. The BASE experience suggests that education-reform project planners would do well to build fundraising and private-sector partnership components into future education projects.

A Replication Checklist

The following is a brief discussion of the investment in time and money that an undertaking similar to BASE might require, and the conditions that would be necessary for a similar effort to succeed. The discussion consists of perspectives and opinions that were collected for this review in the form of a basic checklist for development practitioners interested in lessons learned from the BASE experience about planning basic education quality improvement projects. A comparative checklist of cost, time, and conditionality considerations is available in Annex 3 for the reader's convenience and for practitioners' use and reference.

Discussion

Cost
In summary, the BASE system includes:
- An institutionalized national training network featuring 170 Model Schools
- A cadre of trained host-country teachers and education specialists
- Published learning materials and teacher-training materials
- Teacher Resource Centers
- Fundraising capability

The full value of the BASE II contract was US$16.2 million, including time extensions and additions to the original scope of work. The GDA partner proj-

> The long-standing commitment of the Government of Nicaragua to improving Nicaragua's education system was the determining factor in the success of the BASE Project.

ect had a value of US$1.1 million.

This initial investment did not support the development and implementation of a full national system but rather a set of models and mechanisms to be used for full national expansion and replication. Nicaragua is a small, highly indebted poor country (HIPC), with a population of only 5.35 million and a primary school population of 2.2 million. However, a larger country whose economic and education indicators are similar to Nicaragua's could replicate the BASE II project at a similar scale and with a similar cost structure if there is strong government commitment. The replication pilot could serve as the basis for an expansion effort even larger than the ten-year, 7,000-school effort contemplated by the Government of Nicaragua.

Time

A crude rule of thumb is that a primary education quality reform effort requires a minimum of five years. The BASE Project consisted of two projects (BASE I and II), which together have extended over ten years, not five. However, the BASE Project's purposes included much more than the BASE classroom- and community-based education quality reforms (e.g., supporting modernization of the central Ministry). Also, the Project had more than its share of distractions, in particular the devastating hurricane at mid-Project that destroyed much of Nicaragua's education infrastructure. Knowledge and experience in international educational development has accumulated steadily over the past ten years, and that accumulation is bringing increased efficiency to new projects. Barring major natural disasters and other outsized distractions, in the space of five years, future projects in similar

circumstances should be able to accomplish what BASE accomplished, and more.

Conditions
Host-Country Commitment
The earnest, long-standing commitment of the Government of Nicaragua to improving the education system, and Nicaragua's strong decentralization program and strong commitment to democracy were the determining factors in the successful institutionalization of the BASE Project.

Practitioners know that not all developing countries are serious about improving public education. Sometimes international donors fund development assistance projects for reasons of

> In the space of five years, future projects should be able to accomplish what BASE accomplished, and more.

policy, even in the face of host-country indifference or reluctance. When international funding becomes available for a project where the need is known to be great but official commitment is known to be doubtful, it can be tempting to jump in and hope for the best. Be forewarned that any project will be hard-pressed to endure unless the host institution is reasonably enthusiastic and self-motivated to begin with, no matter how great the idealism or how strong the persistence of the project's planners, managers, and staff.

The government's commitment to decentralization is also important. BASE is a grassroots project, and host-country commitment to decentralization is implicit in any grassroots project. Limited commitment to decentralization may be all that's required to get a project started, but where traditionalist, centralized education authorities and the bureaucratic structures they inhabit are impervious to change, grassroots reform efforts may not take effect.

Nor could a project like BASE easily exist in a country run by an anti-democratic government. With good reason, the tyrants or autocrats in charge would fear it.

> A project like BASE could not easily exist in a country run by an anti-democratic government.

It's unlikely they would let such a program get started and certain they would not let it continue once they found out that such programs promote democracy. Projects like BASE can help strengthen nascent democracies (BASE is helping to strengthen Nicaragua's young democracy), but nascent democracy, or at the very least a credible commitment to democratize, must be there at the outset.

Other Conditions for Success

In the case of BASE, a general agreement by the host government to provide counterpart development funding was less useful than specific commitments to provide permanent staff and assume recurring costs. Host-country commitments should be spelled out in the Cooperative Agreement or other implementing document with binding authority. Minimum host-country or host-institution conditions necessary for a project like BASE are the following:

■ Personnel continuity—
  Host commitment to not fire teachers and specialists trained by the project or to arbitrarily rotate those people out of the replication system.

■ Recurring costs—
  Host commitment to assume recurring costs, at least for materials and training.

■ Technical integrity—
  A basic commitment to the approaches and the program design promoted by the project.

■ Political continuity—
  A commitment that transcends changes in government administration.

Endnotes

1. The percentage of investment in education of the GDP of most industrialized countries exceeds 5 percent. The mean is 5.5 percent for OECD (Organisation for Economic Co-operation and Development) member nations (http://www.uis.unesco.org/TEMPLATE/html/Exceltables/WEI2002/table11.xls).

2. Research and data supporting the correlation between education and economic growth is overwhelming and the literature massive: see the World Bank and UNESCO websites, http://www1.worldbank.org and http://www.unesco.org.

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Annex 1:
Nicaraguan School Classifications

All primary schools in Nicaragua are either one-room country schools, classified as Multigrade System schools, or they have enough teachers to allocate only one grade per classroom, in which case they are classified as Regular System schools. Nicaragua has roughly 8,000 primary schools, of which, very roughly, 75 percent are multigrade schools. It is impossible to be exact because the schools migrate between the two categories as they gain and lose enough teachers to cover every grade and classroom.

BASE II worked with a nationwide network of 170 schools, which became known as Model Schools (*Escuelas Modelo*). The Model Schools serve as training and observation sites for teachers and school administrators, and are intended to exemplify for other schools how the educational reforms work. Of the 170 Model Schools, 52 are multigrade schools.

The other types of schools mentioned in this report include:

Normal Schools (*Escuelas Normales*)—Nicaragua's eight Normal Schools are specialized high schools that produce certified primary school teachers. BASE worked with all eight.

Atlantic Coast Normal Schools (*Escuelas Normales de la Costa Atlántica*)—Two of Nicaragua's eight Normal Schools are located in Nicaragua's Atlantic Coast Autonomous Regions, one in Bluefields, the principal town of the South Atlantic Autonomous Region, and one just outside of Bilwi/Puerto Cabezas, the principal town of the North Atlantic Autonomous Region.

Annex Schools (*Escuelas Anexas*)—Normal School students do their practice teaching at Nicaragua's 32 Annex Schools. The Annex Schools are a subset of the Model School network.

Regular System (*Sistema Regular*)—The Nicaraguan Ministry of Education, Culture and Sports uses this administrative classification for graded schools—one grade and one teacher to a classroom. Most Regular System schools are large and urban. Nicaragua has roughly 8,000 primary schools and roughly one-fourth of these are Regular System schools.

Multigrade System (*Sistema Multigrado*)—The Nicaraguan Ministry of Education, Culture and Sports uses this administrative classification for schools that have fewer teachers and fewer classrooms than the number of grades offered. Roughly three-quarters of Nicaragua's primary schools are Multigrade System schools.

In a multigrade school, at least one teacher teaches more than one grade in the same classroom. Most multigrade schools are small and rural. They are sometimes loosely referred to as "one-room" schools, but in Nicaragua, most multigrade schools have several rooms and several teachers.

Bilingual Regular System (*Sistema Regular Bilingüe*)—Bilingual Regular System schools are Regular System (graded, mainly urban) schools located in Nicaragua's Atlantic Coast Autonomous Regions, with student populations consisting predominantly of students whose first language is not Spanish.

Bilingual Multigrade System (*Sistema Multigrado Bilingüe*)—Bilingual Multigrade Schools are Multigrade System (mainly small, rural) schools located in Nicaragua's Atlantic Coast Autonomous Regions, with student populations consisting predominantly of students whose first language is not Spanish.

Annex 2:
BASE Project Summary

Project title: The Nicaragua Basic Education Program

Project date: 1999-2003 + 2 extension years from September 2003-September 2005

Project Purpose: The USAID-funded BASE Projects are a long-term effort to improve primary education quality in Nicaragua by promoting modern teaching methodologies and community support for schools. The Nicaragua BASE Projects are helping change the way teachers teach, children learn, and how primary schools are run. The BASE experience confirms that that even in conditions of dire poverty, schools can be well managed locally and children can learn quickly and well.

BASE I (1993–1999, US$16m)
■ Provided training for Nicaragua's 22,000 primary school teachers and administrators.
■ Supported school autonomy and administrative decentralization and modernization.

BASE II (1999–2005, US$21.3m: $16.8m program + $4.5m Hurricane Mitch school recovery) Base II
is expanding the reforms begun under BASE I, with increased emphasis on:
■ Rural education.
■ Bilingual education.
■ Parent and community involvement in improving school quality.
■ Educational statistics and applied research.

The Reforms
■ Active learning.
■ Teachers as learning facilitators.
■ Methodologies designed to accommodate each student's style and pace of learning.

■ Students work together in pairs and small groups.
■ Teacher guides, study guides, and learning materials are developed by teachers.
■ Strong student government.
■ Parents and communities empowered to support school quality.

Impact
■ Active student classroom participation increased an average of 21 percent in Model Schools over 1998-2003.
■ Model School student achievement in 3rd and 4th grade math and Spanish increased 30 percent over 2001-2003.
■ Parent participation is over 90 percent in most Pacific/Central Region Model Schools.
■ Model School retention rates exceed 90 percent.
■ Model School completion rates exceed 70 percent (exceeding the national average by 20 percent).
■ 170 Model School in 102 municipalities (in all the country, including Atlantic Coast).

Replication and Sustainability
■ The BASE strategy for replication and sustainability is a decentralized network of 170 Model Schools, Nicaragua's Normal Schools, 28 Resource Centers, 1,100 teacher peer-training groups, and 3,000 local Ministry reform leaders including school Principals, master teachers, and Municipal technical specialists.
■ In response to the success of the Program, the Ministry of Education is seeking international funding to replicate the BASE classroom and community reforms throughout the entire primary education system.

Annex 3:
Replication Checklist

This chart serves as a checklist to allow interested donors and countries to assess a country's readiness to replicate the Nicaragua BASE II model.

Cost, Time, and Administration		
Total Funding:		
Source:		
Implementation time frame:		
5.5 years as of this reporting (extension is possible)		
Technical Assistance:		
Conditions		
Does the country have a:	**Yes**	**No**
Receptive atmosphere	❑	❑
Commitment to democracy	❑	❑
Commitment that transcends changes in government	❑	❑
Commitment to decentralization	❑	❑
Commitment to keep trained teachers and specialists	❑	❑
Commitment to project approaches and program design	❑	❑
Program Elements		
Is the country committed to designing, implementing, utilizing and/or training:	**Yes**	**No**
Model Schools	❑	❑
A national training network	❑	❑
A core group of teachers/others trained as key replicators	❑	❑
Learning materials	❑	❑
Teacher-training materials	❑	❑
Teacher Resource Centers	❑	❑

Annex 4:
Notes for Practioners: A Conversation with Oscar Mogollón

Oscar Mogollón is Senior Technical Director to the BASE Project. What follows here is a synthesis of three long conversations with Don Oscar in which I asked him to offer comments and make recommendations for educational development practitioners. I transcribed and translated his remarks and reorganized the resulting text into topics and sub-topics for readability. The topic headings are:

- On Teachers and Teaching
- About Parents
- About the Community
- About the Ministry
- Notes on the Learning Guides
- Sustaining the Resource Centers
- Other Recurring Costs
- On Decentralization
- Regarding Implementation
- A Final Comment

On Teachers and Teaching

Flexibility in teaching
An important teaching principle in the BASE system is to avoid rigidly preplanning everything down to the last detail, and to stay open every day to what happens in the classroom and what's going on in the community. Every day, something unexpected will happen that can open up opportunities for creative teaching, something will take place that can suddenly shed new light on the whole process of teaching.

Teachers as community facilitators
Don't expect teachers to become community facilitators too soon. At first they'll be so focused on learning and applying the new methodologies that you'll just make them anxious if you try to get them to work with parents, too. It's right for teachers to
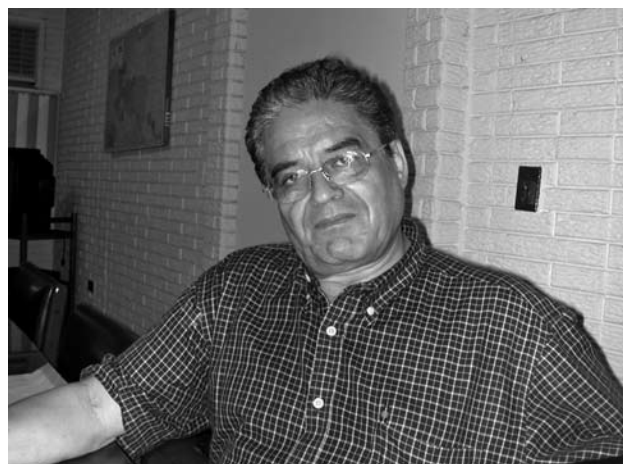
begin by concentrating all their efforts on the children, and then, in an orderly, organized way, start assuming responsibilities for family and community liaison. We can't be making the teachers nervous about all this—teachers aren't paid enough for us to do that to them. We have to arrange things so that the teacher is rewarded by the pleasures and satisfactions of working with the new methodologies.

Teachers' Resistance to Change
A factor that can lengthen the time it takes to implement a program is teachers' internal conflicts about the program. Teachers can start out fully aware of the value of a school reform program, but in spite of that awareness, the burdensome influence of traditional pedagogy based on rote memory is deeply embedded in the collective imagination, and they start arguing with themselves. They

> The burdensome influence of traditional pedagogy based on rote memory is deeply embedded in the collective imagination.

hold back from breaking completely with traditional paradigms. They resist change, or change slowly, or only change partially, and then inertia begins to set in and overpower any original inclination to embrace change with enthusiasm.

So at the beginning of the reform process, for lack of familiarity, a participating teacher will involve herself hesitantly in the new processes. He remains reflexively inclined toward traditional methods. She constantly needs to be told, "It's going fine, it's going fine, keep going."

Teaching Beginning Reading

First grade is a basic factor in the success of the Model Schools. We succeeded in smoothing the transition from first grade to second grade.

What is "transition," in this case? It's the continuity between mastery of basic skills in first grade and beginning to work with the Learning Guides in second grade. If first grade is taught in a traditional way, the most difficult year for the children will be second grade.

Back when we began our work with *Escuela Nueva* in Colombia, traditional approaches to teaching
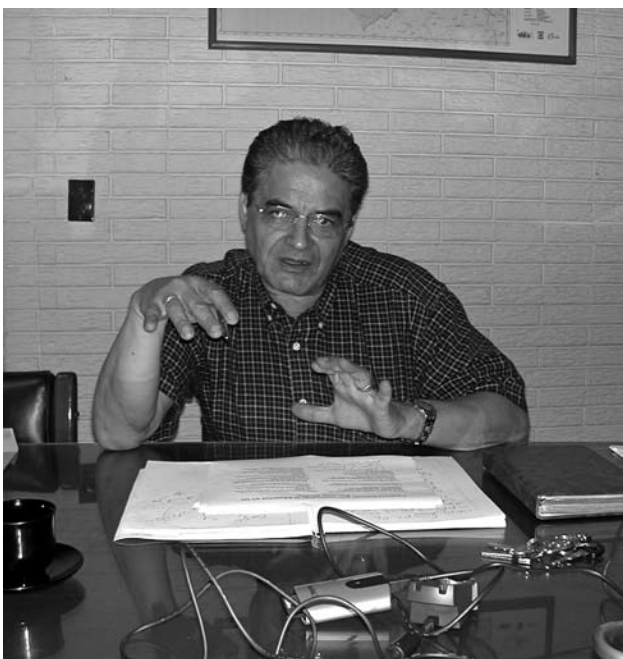
first-grade reading were completely predominant. In 1976, the first-grade curriculum was changed to a semantic-communicative (whole-language) approach. It was in response to this situation that we began working with an approach to beginning reading that we called "significant expressions," which was a combination of the phonological and semantic-communicative approaches. Good first-grade teachers are usually good at teaching reading, but they're not linguists. At least in a multigrade reform program, you just have to give teachers a reading method to use in first grade, anything that works and that isn't rigid or complicated, because the children have to be reading comfortably by second grade in order to use Learning Guides.

Rewarding Excellence

I've observed that when this process is established as a permanent program, what often happens is that the best schools become overburdened, and what at first is a reward for those teachers—to lead, to be regarded as example of excellence—ends up becoming a burden.

What can you do about that? Reward the Master Teachers the same way you're rewarding the less innovative teachers. A visit to another school is something nice for a rural teacher. It's a break from routine. So all I'm saying is, don't just have the Master Teachers stay put, with a stream of regular teachers coming around to observe their classes.

You have to get the Master Teachers out to other schools, too, to observe, to make recommendations.

You have to do more than just making sure that project funds for exchange visits are distributed evenly, though. A project should include a "stimulus plan" for rewarding the best schools and teachers. In an ideal world, the reward for excellence is a raise, but we're talking about education in poor countries.

Where there's no money for teacher salaries, there are other ways to reward teachers. One good way is recognition. Most teachers take pride in their profession, unless they're so ignored and neglected that their pride withers away.

If the Ministry doesn't have a newsletter for primary teachers, your project should start one. Distribute it as widely as possible, and in that newsletter, publish features on the best teachers and schools.

> Most teachers take pride in their profession, unless they're so ignored and neglected that their pride withers away.

You should also encourage the host institution to have an active system of honors and awards for excellence, innovation, academic achieve-

ment. Teachers in poor countries are impoverished workers, but they're impoverished *professional* workers, with professional pride. An article in a newsletter, a special recognition for excellence, an award ceremony at the Municipal Education Office, with the mayor presenting a certificate—such things mean a great deal to teachers.

About Parents

Parental Co-Ownership
A strength of the Model School is the encouragement of parents to participate actively by contributing their own knowledge and experiences to the learning process, and thus to become direct co-owners of those processes.

In an active-learning school, everyone becomes a user of the school. Parents are always potential users. First they are participants, supporting the innovations, and then after a while they'll start asking for education services for themselves.

Parents as Replicators
Parents and children are becoming more exigent and less inclined to accept the use of traditional methodologies by teachers. With increasing frequency we're finding that when a new teacher comes into a school where the reforms are in use, the parents and the students actively help him or her learn to use the new methodologies.

Parents and Academic Achievement
I think that the main job of parents in support of school quality is to help improve academic achievement, not just carry out isolated projects at the school. To do that, to contribute to the learning process, parents have to get themselves organized. Something interesting that I've learned through experience is that parents—especially the rural parents, in my experience—love to participate, but they have trouble organizing sustained participation. If we try to impose organization, naturally they'll resist. The trick is to just let them do whatever projects they want to do and build up some enthusiasm,

and then start saying, "Now let's get organized and we'll really have some success."

About the Community

Multigrade Reform and Rural Communities
This system allows one or two or three teachers to teach all six primary grades. These are the elements that make it possible for students to finish all six grades of primary school right in their own communities.

Permanent Evaluation and Assessment
The Model Schools enable flexible evaluation and grade promotion through learning strategies that are appropriate to the characteristics and circumstances of each boy and girl, to their interests, capabilities, limitations, and concrete situations. In this way, student evaluation becomes a guide for the learning process.

Flexible Promotion
The entire community benefits when the school is set up to give students maximum flexibility to come and go, to leave and then come back, partially or full-time, at any point during the school year. In this way, the local school becomes responsive to the distinct realities and needs of each rural community.[1]

Preserving local culture
The Model Schools represent an effort to restore to the education system its valuable former role as an instrument for reviving, strengthening, and protecting each community's cultural principles and values. In this sense, the culture of the Model Schools takes on a revitalizing role within the larger social culture of the community, as, little by little, each day at school, the boys and girls acquire their community's cultural values and thereby affirm their own identities as members of that culture.

About the Ministry

The Role of Local Ministry Personnel
The BASE development process favors the transformation of the role of local Ministry officials to teacher trainers and facilitators. The participation of local Ministry personnel is what makes possible the monitoring and follow-up system that is carried out in each Model School.

The Role of Central Ministry Authorities
You'll generally have success coordinating the reforms with local and regional Ministry people. At the local level, the connection is direct between the local education authorities and what's going on in the school. At the regional level that direct connection to the schools is partial, but it's still there.

But at the central level, too often the connection to schools is indirect. It's either theoretical—what central authorities *suppose* is happening in the schools—or else it's what some commission tells them is happening out there. The job of project

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1. Many of the world's children participate with their families in seasonal agricultural labor, a major cause of grade repetition. Traditional lockstep grade systems require a student to repeat the entire grade if too many days are missed. Flexible promotion modularizes the curriculum, so that a student who has to leave school for a while during the school year can pick up again where he or she left off.

   Flexible promotion is used in rural schools in Colombia and elsewhere as a response to interruptions in children's education caused by the realities of migrant and child agricultural labor. The BASE Project promoted flexible promotion in Nicaragua. Although the Ministry is receptive, flexible promotion has not been adopted to date in Nicaragua as policy for rural schools, mainly because it requires sweeping, system-wide administrative adaptation. The basic elements of flexible promotion systems are:

■ Teachers trained to use the system.

■ A system-wide modularized curriculum that permits students who leave during the year to start in again in another school, not necessarily in the same school where they were before. Nationwide use of published Student Learning Guides in rural schools is a step in this direction.

■ Standardized student records, so that migrant students can carry their school records from school to school, and teachers will know from looking at them where that student is in the curriculum.

> The role for central authorities is to stop being distant, dictatorial authorities, and become providers of technical assistance and management services to the schools.

advisers is to get the central authorities as closely involved in the real life of schools as the local and regional authorities are.

How do you do that? By using your credibility as an adviser to recommend to the central authorities new participatory roles in the new methodologies, roles that don't diminish their authority, but enhance it. The role for central authorities in a grassroots movement like BASE is to stop being distant, dictatorial authorities, and become providers of technical assistance and management services to the schools in support of the new modalities. Even when the central Ministry authorities support the innovations, as they do in the case of the BASE Project, it can be hard to get senior management out to schools to see the reality. The danger with experts and authorities of any kind, not just educators, is always too much theory and too little reality.

Maintaining liaison regarding curriculum and standards is another important role for central authorities. Teachers can make a lot of progress at the school level and become enthusiastic. But if there is no coordination between progress at the school level and centrally set policies, the time always comes when there's an evaluation, and uninformed Ministry authorities start trying to replace the innovations with traditional ideas, and the poor teachers are caught in the middle.

Notes on the Learning Guides

The Guides, Small-Group Work, and the Community Basis for Learning

The quality of cooperative small-group learning

depends on the quality of the Guides. The child combines what he or she already knows with new information. What the child already knows arises from community life, and that fact makes for more fluid communication and more ease and success as children start working together in groups.

Adapting the Learning Guides to Local Culture

The Guides must always be locally adapted according to the realities of life in that community.

> Constantly adapting, adjusting, adding to the Guides is one of the teacher's most important tasks.

Constantly adapting, adjusting, adding to the Guides is one of the teacher's most important tasks, and one of our most important tasks as trainers is to help teachers learn to do that.

Sustaining the Resource Centers

Sometimes teachers are told, "Do that," and then aren't given any tools. That's where the Teacher Resource Centers come in. The purpose of the Resource Centers is to support the daily work of the teacher. In reform projects like BASE, teachers will begin to create, to design materials for their local needs—but if they don't have something to use to make these materials, to make copies, then the project is simply a good intention, nothing more. If we ask teachers to construct educational materials, then we have to give them a very simple Resource Center to support that work.

If we want the teacher to construct, if we want the teacher to create, based on

> The Resource Centers are the lifeblood of the system. Sure, this costs money, but if it's done simply and planned carefully, it can be sustainable.

the model that we're promoting, the teacher has to have tools, instruments to support that work. The Resource Centers are so important, they're the life-blood of the system. Sure, this costs money, but if it's done very simply and planned carefully, and if everyone understands how important the Centers are, then they can be viable, they can be sustainable.

The independent sustainability of the Resource Centers was part of the original planning for the BASE Project. We looked for strategies based on the reality that many people in the community will want to use the Centers, use the photocopier, and use the computer. That's natural. The teachers will want to use the equipment for other things in addition to constructing materials for their class. That's natural, too. So you don't make rules and put up signs that say, "No using this equipment except for such-and-so." No. Instead, you let the community use the Center, and you charge for the services. That's the best way to avoid misuse, avoid misun-

> You don't put up signs that say "No using this equipment." You let the community use the Center, and you charge for the services. That's the best way to gain goodwill—and earn some money for the Center.

derstandings, gain community goodwill—and earn some money to sustain the Center.

To do that, you have to have a good Resource Center coordinator. You have to give the coordinator good training, especially practical management training on how to keep records, to figure out how much to charge for photocopies, to not keep running out of paper and toner. In the BASE Project, the Resource Center coordinator is a local Ministry person, usually a teacher at the school where the Center is located, who is assigned part-time to manage the Center. Those appointments are very important. The appointment of the Resource Center manager is a good example of when it's the right time for project advisers to "butt in" a little and maybe talk to the municipal delegate or the mayor and make sure the Resource Center coordinator is a good person.

Even with a good coordinator, and even with an efficient system for making money by charging for services, often you'll need to do some local fund-raising to keep the Center going. In some communities the School Council can help, but some communities will be too poor for that. In those cases, sometimes you have to be a little persistent. You have to support the teacher by assuring that there are enough supplies in the center to support the basic classroom work and the basic work of community support. The teachers or the School Council members can look for funds, go to the merchants, go down to the highway to the Texaco station and talk to the manager and try to get a donation.

The majority of our Model School Resource Centers at the present time are at least in the first stages of attaining independent sustainability. For example, last year the Project stopped paying for equipment maintenance and repair. In a lot of cases the School Councils are paying for it. And again, it's true, of course, that in the zones of most absolute poverty, it's going to be impossible to ask that the Resource Centers be self-sustaining. There are extremes that will always have to receive special consideration and dispensation. The Ministry should look at the

> Go down to the highway to the Texaco station and talk to the manager and try to get a donation.

national extreme-poverty definition and have a fund for recurring costs for the Resource Centers in those zones, to make sure that in the zones of extreme poverty, those Centers have paper and toner, too.

Other Recurring Costs

In Nicaragua, the government and the Ministry are serious about educational reform, so there's money for things like bus fare [for teachers to travel to training events]. Where government support is uncertain or money is in short supply, it's the community that must raise funds and give help.

The BASE community participation component and the GDA [Global Development Alliance] project are making an impact. In Nicaragua there's government support for reform but there's not much public money, so a project can go faster and reach farther if the community helps with the costs of training. For that, you need the community to get involved in classroom reform, not just projects to repair the roof or make a garden.

On Decentralization

Decentralization strengthens the school. The school itself is the "unit," or the "cell" that gives rise to decentralization. In countries where the decentralization process is well advanced, and has the genuine support of the education authorities, one finds that decentralization is a factor that favors educational efficiency and effectiveness, including the introduction of methodological reforms.

The Mayor's Office as the Educational Administrative Unit

A similar plan was used in the Colombia *Escuela*

Nueva reform program. The school is such an important part of rural community life that this increased the administrative authority and responsibility of the mayor's office. And the result was that teachers started running for mayor. I think it's a sound idea, and also interesting in the sense that it may have the effect of motivating teachers to take more active roles in local politics. From what I know of the decentralization process here in Nicaragua in general, not just educational decentralization, the increasing delegation of responsibility to municipal government is already attracting teachers and other better-prepared people to run for local office. I think if more teachers start running for mayor and winning, that will be a very good thing for education.

Regarding Implementation

The time required to implement these innovations is very relative. If it's an autonomous community that wants to establish this kind of school, the process can take three or four years. . . . Now, if the initiative comes from the Ministry, the time required could vary greatly depending on a variety of fac-

> The school is the "unit," or "cell" that gives rise to decentralization.

tors—whether or not participating teachers are willing to work on the changes without an increase in salary; whether the participating teachers enjoy stability, and are not subject to being reassigned at any moment; whether or not local educational authorities are willing to receive training and participate in the process, and whether those authorities also have job stability; and whether the Ministry accepts the innovations and doesn't compromise them by imposing rigid norms or trying to mix the innovations with conflicting approaches derived from existing programs. These sorts of things can cause a program of methodological innovation to drag on for an eternity.

A Final Comment

A good educational development project is something natural. It's not anything complicated or sophisticated. Where this kind of development is being practiced, what's important is what exists already within the community, what people say and do in that community, and all of that cultural richness becomes part of what goes on at school. In active-learning reform, the classroom itself becomes the locus of a broad-based sharing of life experience: interchanges of experience involving children, teachers, parents, administrators, and members of the community. What we are talking about is an entirely new concept of what a classroom is for. The classroom becomes a space for interaction among children, teacher, parents—whoever is there. The classroom is no longer the classroom. The classroom becomes an extension of the community.

> We are talking about a new concept of what a classroom is for. The classroom becomes a space for whoever is there. The classroom is no longer the classroom. The classroom is an extension of the community.