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A Secondary Analysis of a Nepalese National Literacy Program

JOHN P. COMINGS, CHIJ K. SHRESTHA, AND CHRISTINE SMITH

Systematic information on large national literacy programs and mass campaigns is so uncommon that any contribution in this regard should be welcomed by the international community of literacy scholars, practitioners, and policymakers. Many of these campaigns are an expression of political will after a change in government and are meant to mobilize the maximum resources to do the most good in a short period of time. In these cases, no data are needed to inform policy decisions since the policy is already made. For example, Valerie Miller's study of the Nicaraguan campaign is a useful description, but it contains little quantitative data on such important factors as drop-out rates, skill attainment, or retention.¹ In other cases, scarce resources are implemented rather than evaluated. For example, in the eight country case studies in H. S. Bhola's *Campaigning for Literacy*, very little quantitative data are available other than completion rates and levels of skill achievement.² A notable exception that looks at both skill acquisition and retention is a study by Gabriel Carron, Kilemi Mwiria, and Gabriel Righa in Kenya.³ The recent and thorough study of the field by Agneta Lind and Anton Johnson devotes only three pages to research and evaluation and quotes very few quantitative studies.⁴ Evaluations of literacy programs and campaigns should be structured to provide data that will expand the knowledge base and inform policy-making and practitioner communities.

This article draws from seven evaluations conducted under the National Literacy Program (now called a campaign) in Nepal between 1986 and 1990.⁵ The evaluations focus on five adult literacy programs and two out-

¹ Valerie Miller, *Between Struggle and Hope: The Nicaraguan Literacy Crusade* (Boulder, Colo: Westview, 1985).

² H. S. Bhola, *Campaigning for Literacy* (Paris: Unesco, 1984).

³ Gabriel Carron, Kilemi Mwiria, and Gabriel Righa, *The Functioning and Effects of the Kenyan Literacy Programme* (Paris: International Institute for Educational Planning, 1989).

⁴ Agneta Lind and Anton Johnston, *Adult Literacy in the Third World* (Stockholm: Swedish International Development Authority, 1990).

⁵ John Comings and New Era Team, "An Assessment of Impact in the National Literacy Programme of Nepal," evaluation report (World Education, Boston, n.d.); Bimala Manandhar, "A Study on the Impact of Literacy Training for Women and Post Literacy Income-generation Activities," evaluation report (World Education, Kathmandu, 1989); New Era, "Evaluation Study of Literacy Campaign in Surkhet Valley," evaluation report (Ministry of Education, Kathmandu, Nepal, 1989); New Era, "Evaluation Study of Literacy Programme of SFDP and PCRW," evaluation report (Unicef, Lalitpur,

of-school child programs. Though different institutions managed the implementation of these programs, all used the same materials and instructional design. Significant resources were put into the development of the materials and the instructional design, which draw from many different theories and approaches. They were extensively field tested and revised several times. Experts from outside Nepal have given high praise to these elements of the program, and for the purposes of this article the materials and instructional design will be considered satisfactory and the best that could be done. These evaluations, therefore, are a good source of data with which to look at the following issues: drop-out rates, female participation, language of instruction, skill acquisition, skill retention, changes in attitudes and knowledge, effects on the primary schools, and costs.

The Program

Nepal is one of the world's poorest countries (\$180 per capita gross national product) and has one of the lowest literacy rates (26 percent in 1985).⁶ Though much effort has been put into expansion of the primary school system, the gross enrollment rate (i.e., total enrollment regardless of age as a percentage of school-age population aged 6–10 years) was 78.9 percent in 1985.⁷ At that time, however, the gross enrollment rate for girls was still only 50 percent.⁸ The net enrollment rate in 1985 (i.e., the percentage of school-age children 6–10 years of age who are enrolled in school) was only 57 percent,⁹ and the percentage of grade 1 students who complete primary school was below 30 percent.¹⁰ While continuing to expand and improve the formal school system, Nepal has embarked on a National Literacy Program to provide a minimum basic education to all adults and children not served by the formal system.

The National Literacy Program in Nepal began in 1984 after 6 years of research, design, and field testing. This development was a collaborative effort between the Ministry of Education and World Education, an organization based in the United States with decades of experience in literacy in Asia. Funding for the development of the Literacy Program came primarily from the Ministry of Education and the United States Agency

Nepal, 1990); Bejuna Joshi, "Study of Non-formal Education Programme for Out-of-School Children," evaluation report (Unicef, Kathmandu, 1989); Krishna Sob and Keith Leslie, "A Case Study of the Non-formal Education Project in Takukot Panchayat of the Gorkha District," evaluation report (Save the Children, Kathmandu, 1988).

⁶ World Bank, *World Development Report 1990* (New York: Oxford University Press, 1990), p. 178.

⁷ Improving Efficiency of Educational Systems (IEES) Project, *Nepal: Education and Human Resources Sector Assessment* (Tallahassee: Florida State University, May 1988), p. 4-15.

⁸ Ibid.

⁹ Ibid., p. 4-14.

¹⁰ Ibid., p. 4-16.

for International Development (USAID), but the United Nations Fund for Population Activities (UNFPA), the United Nations Educational Scientific and Cultural Organization (Unesco), the United Nations International Children's Emergency Fund (Unicef), and Action Aid contributed to the development of the materials. In its first year of operation (1984–85), 18,000 participants were served. In the most recent full year of the program (1990–91), over 120,000 were served. Plans are now being made to expand this program to a larger and more intensive campaign that may serve as many as 500,000 participants each year for 10 years.

The Literacy Program is unique in that more than 50 percent of the direct implementation is done by agencies other than the Adult Education Section of the Ministry of Education and Culture. Large numbers of participants are served by the projects of international aid agencies such as Unicef, international nongovernmental agencies (NGOs) such as Save the Children, and local NGOs such as the Nepal Nonformal Education Service Centre.

The success of the Literacy Program is judged on the materials and the instructional strategies used in the literacy course. The materials consist of four 96-page books (*Naya Goreto 1, 2, 3, and 4*). Based on Paulo Freire's keyword approach,¹¹ the books introduce new words that are relevant and important to the learners' lives. Drawings that depict a village situation corresponding to the keywords are presented both in the books and in large posters. These keywords are the basis for learning syllable components, which are then recombined to form new syllables and words.

Participants build reading and writing skills by working with text presented in a comic book format, which maintains learners' interests throughout the series. Math skills are developed sequentially, starting with counting and tallying objects and ending with multiplication and division. The lessons directly relate to the participants' daily lives and provide opportunities for discussing basic information presented about such topics as health, conservation, family planning, agriculture, and social problems. As such, in the process of acquiring literacy skills, participants are introduced to many development issues. Consequently, organizations with a particular development focus have found that the Literacy Program is a helpful adjunct to their efforts and have augmented these basic materials with additional content that serves their own purposes.

The instructional strategy involves helping the participants learn from one another, and active learning is built into the course design. Instead of simple memorization of syllables and choral reading by rote, instruction includes time in both small and large groups engaged in peer teaching activities, reading and writing games, and discussion of the issues represented

¹¹ Paulo Freire, *Pedagogy of the Oppressed* (New York: Herder & Herder, 1968).

by the keywords and poster drawings. Participants also have opportunities to role-play the teacher. Through these activities, they develop critical thinking, problem-solving, and literacy skills. Materials for children that take the same approach as those for adults have been developed as two books (*Naulo Bihana 1 and 2*) with a total of 270 pages.

The basic course lasts 6–9 months. Classes of up to 30 generally meet for 2–3 hours a night, 5–6 nights a week (approximately 300 hours). Children's classes are held over a similar period but usually during the day. In this time, most groups can complete all four books, but if the books are not completed, the last book becomes postclass reading material. The Ministry of Education and a number of other organizations are now involved in producing additional reading materials so that new readers have something with which to practice their skill. The classes are held in people's homes, village meeting places, under trees, and in schoolrooms. The physical conditions under which the classes take place are usually primitive.

The Evaluations

Each of the seven evaluation reports used as sources of data for this study took a different approach, and their methodologies, when judged by the strict criteria of experimental design, may be less than perfect. Even so, they provide useful insights. The literacy programs reported in the evaluations were in rural villages. The reports are as follows:

1. The Women's Social Service Coordinating Committee (WSSCC) operated literacy classes for women in four sites in Nepal from 1986 to 1987. The evaluation of the program was conducted by New Era, a well-regarded educational research and consulting firm in Kathmandu. This evaluation used a pretest and posttest of skills, knowledge, and attitudes but reported aggregate data for classes rather than net change in individuals. In addition, some of the pretesting was done after the classes began. There were 476 participants who were pretested, and 210 of these were posttested at the completion of classes. This evaluation used a test of skills and knowledge developed by New Era and will henceforth be referred to as *WSSCC*.

2. World Education staff located and retested (with different test instruments developed for the next study, Surkhet) 101 of the original 210 participants who completed the WSSCC program. This second study was done in 1989, 2 years after completion of classes, and reported composite scores for all participants. This study will be referred to as *WSSCC-2*.

3. The Ministry of Education implemented a pilot effort in Surkhet District to try out an intensive campaign methodology in 1988 and 1989. Though most classes in other programs run from 6 to 9 months, these classes ran for only 4 months. The evaluation of this program was done by New Era with a test developed for this activity. No pretesting was done.

However, based on firsthand knowledge of incoming participants, it would be highly unlikely if participants began with any but very limited literacy skills. Data were collected from a sample of 205. This study will be referred to as *Surkhet*.

4. The Production Credit for Rural Women's (PCRW) program is operated by Unicef and provides a range of services to rural women, including literacy classes. The evaluation of this program was done by New Era in 1989–90 and used the same test as the Surkhet study. No pretesting was done, but participants probably started with little or no literacy skill. Data come from a sample of 890 participants. This study will be referred to as *PCRW*.

5. The Small Farmer Development Project (SFDP) is another Unicef-supported program that provides a range of services to rural farmers, including literacy classes. The evaluation of this program was done by New Era with the same staff and test and at the same time as the PCRW evaluation. No pretesting was done, but participants probably started with little or no literacy skill. Data come from a sample of 3,010 participants. This study will be referred to as *SFDP*.

6. The Unicef study looked at the child classes (for children 8–14 years of age) conducted under their Primary Education Project (PEP) for 9 months and compared them to similar classes run for 6 months during the Surkhet pilot mentioned above. The evaluation of this program was conducted by Unicef staff in 1989–90. No pretesting was done. From the 9-month program (PEP), a sample of 87 participants was drawn. From the 6-month program (pilot), 210 participants were drawn. A sample of 20 PEP graduates who were in the fourth month of formal primary school (in each of grades 1, 2, 3, and 4) was looked at for some of the analysis. This study will be referred to as *Unicef*.

7. A Save the Children (SAVE) study looked at participants in a 3-year nonformal education program that used the Literacy Program materials. This evaluation was done in 1988. No test of skill levels was attempted. The study will be referred to as *SAVE*.

Our secondary analysis reviews these studies and draws inferences from the collective findings relating to a variety of key measures.

Findings

Drop-out Rates

One common concern in the literature of adult literacy is a high drop-out rate, with "high" usually viewed at 50 percent.¹² Such a rate is sometimes considered an indication that a literacy program is poorly designed or

¹² International Development Research Centre (IDRC), *The World of Literacy: Policy Research and Action* (Ottawa: IDRC, 1979), p. 38.

TABLE 1
DROP-OUT RATES

Study	Number of Participants per Year	Drop-out Rate as Percentage of Total
SFDP	22,940	39
PCRW	4,000	31
WSCC	476	56
Surkhet	7,474	50
Unicef	2,016	N.A.
SAVE	1,052	45*

NOTE.—See text for description of studies.

* This drop-out rate is for a 3-year extended course. Yearly drop-out rate was substantially lower.

that potential participants are uninterested in attending literacy classes. This can lead agencies to make significant changes in their materials and instructional design or even to abandon a program completely. Yet the evaluations tend to regard a 50 percent drop-out rate as within an acceptable range. The drop-out rates recorded by each of the studies are shown in table 1.

A comparison with the formal school system helps put these drop-out rates into perspective. In Nepal, 70 percent of all dropouts occur in grade 1 (though half of the dropouts do repeat that grade).¹³ The total drop-out rate from grades 1 to 5 is 78 percent.¹⁴ About 22 percent of grade 1 students drop out, and another 39 percent fail to go on to grade 2 and repeat grade 1.¹⁵ Since the Literacy Program attempts a grade 3 equivalence, the drop-out rate could be compared with a primary school drop out rate of the first three grades, but even in comparison to grade 1, the best literacy programs have a drop-out rate that is about the same as the formal school system.

If a well-developed set of materials and instructional design produces a 50 percent drop-out rate, other elements of the literacy program should offer the possibility for improvement. Theories to explain the lack of success have focused on participant-related variables such as motivation, free time, or interest.¹⁶ The data in these evaluations appear to point to the teacher as the element (after good materials and instructional design) that accounts for the next big improvement in retention and success.

The WSCC study drew data from 17 classes. Three of these classes experienced a 100 percent drop-out rate; the overall rate would be much lower (47 percent vs. 56 percent) if those classes were not included. In

¹³ IEES Project, pp. 4-20, 4-21.

¹⁴ IEES Project, p. 4-20.

¹⁵ IEES Project, pp. 4-18, 4-19.

¹⁶ Lind and Johnson (n. 4 above), pp. 59-65.

addition, the drop-out rate in some classes was below 30 percent. Project staff attributed classes that failed completely or had very high drop-out rates to teachers who either did not show up for class regularly or who treated their students as if they were children rather than adults. In the Surkhet study, 15 percent of the classes failed completely. If these are removed from the data, the overall drop-out rate is lower (41 percent vs. 50 percent).

In the SFDP and PCRW studies, teacher-related variables (observed class teaching behavior, age, and opinions about the program) accounted for a significantly higher proportion of the variation in literacy achievement than participant-related variables (attitudes, previous studies, free time to study, and opinions about the program). Thirty-eight percent of the variance for the total literacy achievement (language and numeracy) scores were explained by the teacher-related variables as opposed to 31 percent for participant-related. Within these teacher-related variables, Class Teaching (a composite of observed measures of proper class management, participatory method of teaching, active adult participation, and periodic evaluation of adults' learning) was a strong and consistent predictor of literacy achievement.

These data indicate that if a program is well designed, the area where impact on success can be most easily made is in the selection, training, and supervision of teachers. If teachers show up and treat their students well, then drop-out rates significantly lower than 50 percent would be expected. Participant-related factors (motivation, interest, and free time, for example) do have an impact on drop-out rates, but addressing these factors may be difficult or impossible. Teacher selection, training, and supervision are elements of a program that already exist, and improvements in these elements may offer substantial increases in program efficiency.

Female Participation

An important issue in adult illiteracy is the disproportionate number of women who are illiterate, leading to the recognition of the need to have special programs that target women and girls.¹⁷ Of the programs evaluated in this study, the WSCC and the PCRW projects were focused exclusively on women, and 100 percent of the participants in the WSCC and 96 percent of the participants in the PCRW classes were female. The other programs targeted both men and women. In the SFDP, 75.5 percent were female; in the Unicef study, 70 percent; in the Save study, 87 percent; and in the Surkhet study, 70 percent. These data show that even when programs are not specifically designed for them, at least 70 percent of the participants will be women, which, in Nepal, approximates their percentage in the total illiterate population.

¹⁷ World Conference on Education for All, *Meeting Basic Learning Needs: A Vision for the 1990s* (New York: Unicef, 1990), pp. 70–72.

The Surkhet, PCRW, and SFDP studies found no significant difference in the test scores of men and women in reading and writing but did find a difference in math, with men doing better than women. The other studies did not look at this issue or could not because all of their participants were women.

These data do not necessarily mean that the literature on adult literacy has been overestimating the barriers to female participation, but, rather, it may have been underestimating women's determination to get an education when quality programming is within reach. The literacy classes appear to offer that chance to women and girls who have not attended primary school. These classes are, in general, held in locations and at times that are easier for women to attend. This and other differences with the formal school system might point toward effective ways to address the issues of female equity in education. If some part of the provision of primary education was restructured into a form that made it easy for girls to attend, female participation rates might go up significantly. After several generations of this alternate form of primary education, the concept of educating girls might become firmly entrenched and the need for an alternate system might disappear. Girls would then attend regular primary schools with boys.

Language of Instruction

Most countries with high rates of illiteracy have both an official national language and several local languages. A debate exists about the strengths and weaknesses of teaching literacy skills using the local or national language.¹⁸ All of the literacy classes in this study were conducted in Nepali, the national language. About 40 percent of the population does not speak Nepali as their first language although it is widely used as the language of trade, education, and government. Though most people who speak a local language speak one that is related, linguistically, to Nepali, some speak languages from other language families.

In the SFDP study, the Nepali-speaking participants demonstrated a slightly higher performance on the reading and writing tests, and this difference was statistically significant. The PCRW study reported the opposite with Nepali-speaking participants performing slightly below the non-Nepali speaking participants, though it was not statistically significant. The Surkhet study also looked at language and found no significant difference between Nepali and non-Nepali speaking participants.

From these studies, there is no way to determine the actual skill level in oral Nepali of participants at the beginning of the classes. It could be that oral fluency was quite high, though people involved in these programs discount this. People involved in the various programs have noted that

¹⁸ Kenneth L. Baucom, *The ABCs of Literacy: Lessons from Linguistics* (Amersham: Hulton Educational Publications, 1978), pp. 33–41.

oral fluency in Nepali improves over the time of the literacy classes, and it may be that the literacy classes are improving oral fluency, which then improves literacy skill acquisition.

Oral fluency in a national language could be an additional, and valuable, outcome of literacy classes. Countries with a national language policy might consider a literacy program as one way to support that policy. Care should be taken to ensure that the linguistic environment is supportive of learning literacy and oral fluency in the national language (as it appears to be in Nepal), and oral practice should be included as part of the instructional design. Where an environment conducive to learning in a national language does not exist, the instructional design may require changes that support more oral language practice.

Skill Acquisition

A key concern for educational planners is the level of skill that can be attained within the short time period and limited resources provided for literacy classes.¹⁹ The Nepal Literacy Program materials, if mastered completely, provide a grade 3 equivalency according to the Ministry of Education. Independent evaluations by Nepali educators support this contention, and at least some of the children who complete the course are allowed into and do succeed in grade 4.

The Surkhet, WSCC-2, PCRW, and SFDP studies all used a 75-item test instrument that was designed and validated (a reliability of 0.9 on the Kuder-Richardson) with field testing. The WSCC study used a 55-item test that was not validated. The WSCC test is considered easier than the test developed for Surkhet. Questions on both tests range from very simple word or number recognition to difficult comprehension, writing, and math problem solving. The easier questions represent a somewhat larger percentage of total points, and, hence, a low score indicates a very basic level of literacy and numeracy skill. The Unicef study used a test developed for *Naulo Bihana* that measured word recognition, word writing, and comprehension. It was pretested with child and adult participants as well as grade 1, 2, and 3 students in the formal primary schools. A reliability of 0.98 on the Kuder-Richardson was calculated.

In the WSCC evaluation, the mean score for students who completed the test for reading was 88.62 percent (with a range of 79.67–96.27 percent); for writing, 75.49 percent (with a range of 49.13–90.75 percent); for numeracy, 74.30 percent (with a range of 58.67–90.5 percent); and

¹⁹ Robert Arno and Harvey J. Graff, "Introduction," in *National Literacy Campaigns: Historical and Comparative Perspectives*, ed. Robert Arno and Harvey J. Graff (New York: Plenum, 1987), pp. 21–28.

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TABLE 2
SKILL ACQUISITION

Quartile	Percentage Score	Percentage of Participants in Quartile		
		Surkhet	SFDP	PCRW
Fourth	75–100	23.4	26.0	19.5
Third	50–74	29.3	24.5	20.8
Second	25–49	32.2	26.0	31.8
First	0–24	15.1	23.6	27.8

NOTE.—See text for description of studies.

for math problem solving, 64.01 percent (with a range of 40.75–87.15 percent).

In the Surkhet, SFDP, and PCRW studies a composite score that includes all of the factors of reading, writing, numeracy, and math problem solving were reported. The scores that were achieved are shown in table 2. The language-related and math-related average scores that were reported are shown in table 3.

Composite language and math scores in the Unicef study are reported in table 4 (note that PEP was a 9-month program and the pilot was a 6-month program).

These tests are not normed to standards and as such give only an indication, not an exact measure, of learning. The tests were related to the material taught and as such may not provide an indication of generalizable skill. These data do show that learning took place and that at least 50 percent of the completing students scored above 50 percent on a test of the material. The Unicef study makes a convincing case for increasing the time available for literacy instruction. In the 9-month course, 76 percent of the participants scored above 60 percent, and 20 percent scored above 90 percent on the test. In the 6-month course, only 38.6 percent scored above 60 percent, and 4.8 percent scored above 90 percent on the same test.

TABLE 3
SKILL ACQUISITION (as Percentage of Total Possible)

Category	Surkhet	SFDP	PCRW
Language	58.47	59.0	54.9
Math	40.18	36.5	28.9

NOTE.—See text for description of studies.

TABLE 4
SKILL ACQUISITION

Quartile	Percentage Score	Percentage of Participants in Quartile	
		PEP Regular	Pilot
Fourth	90–100	20	4.8
Third	60–89	56	33.8
Second	30–59	21.8	35.2
First	0–29	2.2	26.2

NOTE.—See text for description of studies.

Skill Retention

With the short intensive courses that typify large literacy campaigns there is always a question as to whether the skill achieved is retained.²⁰ The SFDP and PCRW evaluations tested past participants, and WSCC-2 looked specifically at retention. All three studies used the same test, and their findings are presented in tables 5 and 6.

The SFDP and PCRW evaluations reported composite literacy and numeracy scores for participants who had taken the literacy classes during each of six yearly cycles. All were tested in 1989, which was, respectively, 5 years, 4 years, 3 years, 2 years, 1 year, and less than 1 year after the course.

The WSCC-2 evaluation measured literacy and numeracy skill 2 years after completion of classes and reported a composite score for 101 participants out of an original 210.

All three of these studies show that skill is retained. Since individuals were not pretested but were posttested at the end of the classes and tested later, all with similar instruments, the data do not show whether skill levels attained by individuals are maintained or improved. Still, the notion that people will relapse into illiteracy is contradicted by this evidence.

Some of the original data for the WSCC and WSCC-2 studies were available, and an analysis of these data allowed for matching pretests, posttests, and follow-up tests 2 years after completion for some individual participants. We looked only at those participants who scored zero on the pretest, indicating that they were totally illiterate at the beginning. Keep in mind that the tests in WSCC and WSCC-2 were different and that the WSCC-2 test was considered more difficult. In table 7, "improvement" means that the score on the follow-up test was either the same or greater than that on the posttest. "Some loss" indicates that the second score was lower by 15 points or less. "Significant loss" indicates that the follow-up score was lower by more than 15 points. The *N* for "reading" was 19 and

²⁰ Lind and Johnson, pp. 106–11.

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TABLE 5
SKILL RETENTION

Year of Participation	SFDP		PCRW	
	N	Average Score (%)	N	Average Score (%)
1983-84	159	47.7	18	59.9
1984-85	80	51.5	21	47.3
1985-86	216	49.9	70	44.7
1986-87	309	51.1	107	50.2
1987-88	637	48.9	239	38.5
1988-89	1,255	50.4	519	45.6

NOTE.—See text for description of studies.

for “writing” was 25. In general, these data not only indicate retention of skill but suggest improvement.

Even when there is no specific postliteracy effort, people find something to read in rural Nepali villages. An inventory of these materials or a research project that looks at how people used their skill, could provide an interesting picture of how to provide a literacy environment in places where it does not exist. Alternatively, such research might discover that an environment containing reading matter exists, and could thus facilitate efforts to produce and distribute easy-to-read and interesting materials for new readers.

Changes in Attitudes and Knowledge

The literacy materials present information on a full range of development topics such as family planning, health, ecology, and agriculture. One outcome from participation in the program is the development of positive attitudes and knowledge in these areas. As a result, participants may be more open to assistance from village-level workers whose agencies focus on these development topics.

The WSCC study was the only evaluation that pretested and then posttested participants about some of these issues. For example, on a pretest only 5.04 percent of the participants suggested oral rehydration therapy (an effective and inexpensive method) for children’s diarrhea, whereas 90.74 percent made that suggestion after the classes. In the pretest, 25.5 percent of the participants suggested tree planting as a means to control floods and landslides, whereas 94.63 percent made this suggestion

TABLE 6
SKILL RETENTION

Score Range (%)	N	% of Total
60-100	62	62
30-59	32	32
0-30	7	7

TABLE 7
SKILL RETENTION (as Percentage of *N*)

Result	Reading (<i>N</i> = 19)	Writing (<i>N</i> = 25)
Improvement	31.6	70
Some loss	21.1	30
Significant loss	47.3	N.A.

in the posttest. In the pretest only 3.45 percent mentioned the avoidance of smoking as a prescriptive measure for pregnant women, whereas 82 percent made that suggestion during the posttest. In the pretest, 51.18 percent of the participants suggested that having too many children makes it difficult to raise and feed a family, whereas in the posttest 88.98 percent made that suggestion.

The SFDP and PCRW studies also looked at attitudes and knowledge but only as a posttest, and, therefore, the data will not be presented here. The data show, however, that participants expressed strong positive attitudes toward family planning, education of girls, adoption of new technology and improved practices, and the need for group efforts to overcome village problems.

None of the studies looked at behavioral changes, but changes in expressed attitudes and knowledge do indicate positive change. These data point toward the development of positive attitudes and knowledge when these issues are discussed in the literacy program.

The data suggest that projects and agencies that focus on noneducational sectors should support literacy efforts. This support will benefit their programs with clients who are more open to change and who have some literacy and numeracy skills that will help them to change. Additionally, these agencies should support literacy programs to assure that their messages are represented in literacy and postliteracy materials.

Effect on Primary Schooling

Several of the studies mentioned positive attitudes developed among participants toward sending children, particularly girls, to school. In the Unicef study, the entrance into primary school by participants who completed the child literacy program was studied. The study reports that 54.11 percent of the children who finish the out-of-school literacy classes enrolled in primary school. The grade into which a child enters is determined by the school headmaster. Among a sample of 20 successful participants, one was in grade 1, four were in grade 2, 12 were in grade 3, and three were in grade 4. Slightly more than 54 percent of these were girls, and all were in the fourth month of the school year.

This effect suggests that, in countries with low primary school participation and high drop-out rates for girls in particular, the provision of

out-of-school literacy classes for children will increase participation rates, equity, and efficiency by adding students (especially girls) who would not otherwise attend school to the higher primary grades.

It is not suggested here that countries should abandon the development of their formal school systems for less expensive nonformal systems. Rather, nonformal programs have an effective role to play while the formal systems are in the process of developing.

Costs

Cost data were reported in the SFDP, PCRW, and WSCC evaluations, and the data in Surkhet were calculated at the request of the authors. The SFDP reported \$5.75 per participant, the PCRW reported \$7.50, Surkhet reported \$9.60, and the WSCC reported \$10.00. Each of these estimates included similar elements but may not have included all of the costs involved in implementing the literacy classes. In addition, these are costs based on entering participants, not completing participants, and with drop-out rates of 30–50 percent, they might be doubled for completing participants. The classes are free to participants and opportunity costs are low since the classes require only 2–3 hours a day and are arranged at times when other work is not pressing.

It should be noted that the program with the largest number of participants, SFDP, had lower per participant costs than the PCRW, which had about 30 percent as many participants. WSCC had the highest per capita costs and the lowest number of participants. Economies of scale are clearly at work.

The cost (books, pencils, uniforms, and unofficial fees) for primary school in the 1986–87 school year was approximately \$12 per year per student to the government and \$10 per year to parents.²¹ Opportunity costs include time lost during the day that might be spent in productive work at home or in support roles that free up parents to work. The economies of scale of the primary system, containing 1,860,000 students, are much greater than the Literacy Program. Though these costs are an approximation and include different elements than those for literacy classes, the cost of 1 year of adult or out-of-school child literacy appears to be less than the cost of 1 year of primary school; it also provides an equal or greater level of skill and can achieve an equal completion rate.

Conclusions

The evaluations and the data they report point toward the following propositions:

1. A 50 percent drop-out rate does not necessarily indicate that materials and instructional design need improvement.

²¹ IEES Project (n. 7 above), pp. 2-125–2-128.

2. Once a program has good materials and a good instructional design, the drop-out rate can be significantly lowered by attention to teacher selection, training, and supervision, making significantly lower drop-out rates possible.
3. Of the completing participants, about 50 percent will score above 50 percent on a composite test of the reading, writing, and math skills covered in the class.
4. A significant percentage of completing participants retain or improve the skills acquired in literacy classes.
5. When literacy classes are provided in a convenient manner, women and girls can overcome the barriers to their participation in education.
6. Literacy classes can serve as an effective mechanism for teaching knowledge and attitudes in relation to other development sectors such as health, family planning, ecology, and agriculture.
7. The provision of out-of-school literacy classes for children will benefit children who would not otherwise attend school and improve efficiency and equity in the formal primary school system.
8. A literacy program can be successful in a national language with participants whose local language is different, and improved oral fluency in a national language can be an additional outcome of such a program.
9. In large-scale programs with reasonably good quality, costs can be significantly less than the cost of the 1–3 years of primary school needed to acquire the same skill level.
10. Economies of scale can significantly lower per-participant costs in literacy programs.

Together, these studies represent a reasonably good sample for Nepal, and as such the findings are valid for that country. Parts of South Asia (in Pakistan, India, Bhutan, and Bangladesh) share many similarities with the population in Nepal. In these countries, most people speak similar languages, and village life and customs are similar. Hinduism and Islam are practiced in all five countries, though in much different percentages of the population, and this might have some effect on outcomes, particularly for women. Some generalization to the region and to other parts of the Third World may be justified.

While the educational policy and planning community could always benefit from more systematic research, both quantitative and qualitative, results from evaluations, such as those synthesized above, should not be neglected. While this synthesis questions some commonly held beliefs, it also reinforces many ideas that common sense would have dictated. For example, good instructional design and materials as well as training inputs in literacy teachers seem to be good investments. Thus, systematic research and monitored practice should be combined to provide sound advice on using limited resources to meet the goals of universal literacy while building a system that will provide universal access to quality primary schools.