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Literacy and Primary Education

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by
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Abstract

Literacy rates represent the most telling indicator of a country's educational status. The core of mass public education, and hence the starting place for literacy for most of the world's population, is primary education. However, a large number of countries have yet to ensure universal primary education, and educational systems with high enrollment are often plagued by high dropout rates.

This paper reviews the literacy status of developing countries, illustrating the extent of differences across such social lines as gender, region and age groups. The paper argues why it is necessary to eradicate illiteracy. It also reviews the causes of illiteracy and necessary measures to eradicate illiteracy. Finally, the paper suggests the necessary roles governments and donor agencies can play in eradicating illiteracy in developing countries. Since the formal primary education system is one of the chief means of increasing literacy, this paper focuses on the interrelationships between literacy and primary education, and suggests appropriate measures to overcome the problems at the primary level. However, it also looks at adult literacy training, both as a means of reinforcing educational investments in the "next generation" and enhancing the productivity and well-being of the current adult population.

Contents

The Definition of Literacy	1
The Status of Literacy in Developing Countries	1
Rationale for Eliminating Illiteracy	5
Causes of Illiteracy	7
Determinants of Low Enrollment and Wastage	9
Measures to Improve the Enrollment and Retention Rates	11
Increasing the Demand for Schooling	13
Financing of Primary Education	15
The Importance of Adult Education in Tackling Literacy Problems	16
What can be done?	19
Bibliography	20

Literacy rates represent the most telling indicator of a country's educational status. There is clear evidence that literacy raises the productivity and earning potential of a population, and improves the quality of life. Yet, in most developing countries illiteracy is an endemic problem. More than half the population in Sub-Saharan Africa and South Asia is without any literacy skills.

The core of mass public education, and hence the starting place for literacy for most of the world's population, is primary education. However, a large number of countries have yet to ensure universal primary education, and educational systems with high enrollment are often plagued by high dropout rates.

This paper will review the literacy status of developing countries, illustrating the extent of differences across such social lines as gender, region and age groups. It asks: why is it necessary to eradicate illiteracy? What are the causes of illiteracy? What measures should be taken to save the future generation from illiteracy? Finally, what is the role of the government and donor agencies in eradicating illiteracy in developing countries? Since the formal primary education system is one of the chief means of increasing literacy, this paper focuses on the interrelationships between literacy and primary education, and suggests appropriate measures to overcome the problems at the primary level. However, it also looks at adult literacy training, both as a means of reinforcing educational investments in the "next generation" and enhancing the productivity and well-being of the current adult population.

The Definition of Literacy

Definitions of literacy have varied over time and continue to evolve today. Literacy is seen by many as a neutral and technical skill, analogous to typing or wordprocessing. However, the technician approach has been challenged by those who propose a broader and more explicitly political definition. This school of sociologists and educators reject the notion that literacy is a fixed, measurable achievement or competence and propose a more relativistic concept. Kenneth Levine (1990), for example, argues that literacy should be seen as a multiplicity or hierarchy of literacies, and Graff (1979) makes the point that literacy requirements vary among different socioeconomic groups, regions and communities. Scribner and Cole (1981) have defined literacy as a set of socially organized practices, reproduced and disseminated by a symbol system. The Brazilian educator, Paulo Friere, has developed the most explicitly political definition of literacy. He sees literacy as a process of "conscientization" which involves "reading the world" rather than just reading the "word" (Friere and Macedo 1987).

The use of different definitions of literacy makes it difficult to measure the number of literates in the world. Unesco's current methods and measurements are widely criticized as too narrow, based on the limited definition of a literate person as someone who can "read and write a simple statement on his or her everyday life" (Unesco 1993a:24).¹ However, due to the lack of other global data on the subject, we chose to use Unesco estimates in this paper.

The Status of Literacy in Developing Countries

There has been tremendous progress made in the spread of literacy in developing countries, especially in the last ten years. The global illiteracy rate was close to 40 percent in 1970 compared to only a quarter of the world's population in 1990. In developing countries, illiteracy rates

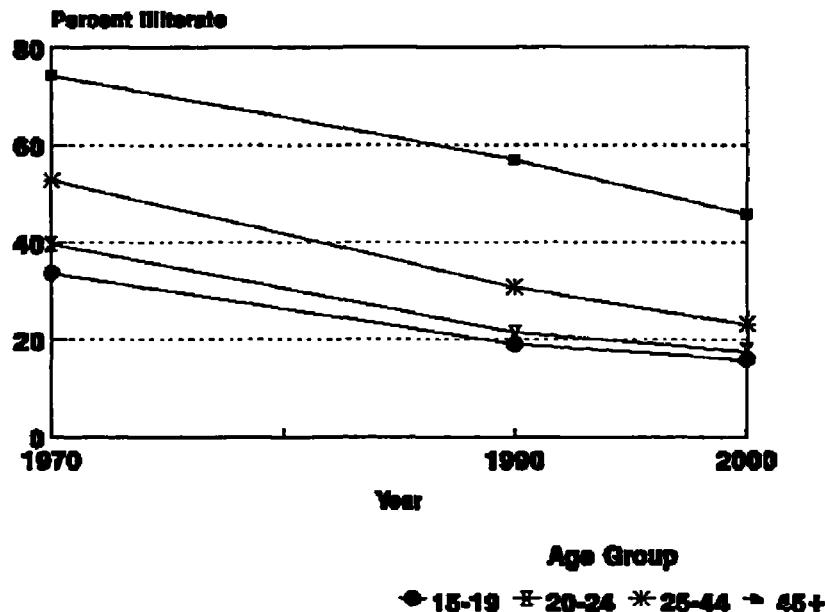
¹ For a more elaborate discussion on problems in collecting literacy statistics, see Wagner (1992).

decreased from over 50 percent in 1970 to 35 percent in 1990. It is projected that by the year 2000, the illiteracy rates in developing countries will drop further to 28 percent (Unesco 1990).

Though this progress is commendable, not all regions show such impressive improvement. The situation is most critical in developing countries. More than half the population in Sub-Saharan Africa and South Asia are without any literacy skills whatsoever. Almost 48.7 percent of the population in Arab States was illiterate. In the least developed countries as a whole, the illiteracy rate was 77.5 percent in 1990 (Unesco 1990 and 1993a). Moreover, the total number of illiterate adults is still increasing in sub-Saharan Africa, the Arab States and South Asia. Only 9 out of the 39 sub-Saharan African countries experienced a decline in their number during the 1980s, compared to 14 out of 27 countries in Asia and 19 out of 22 countries in Latin America and the Caribbean (UNESCO 1993a).

In addition, literacy rates differ across such social lines as gender, region and age. For example, Figure 1 demonstrates that illiteracy rates are higher for each subsequent cohorts. In other words, the younger the age cohort, the more literates there are. The improved literacy rates among the younger age-groups is an indication of considerable advances in the provision of primary schooling in developing countries in recent years. High illiteracy rates among age cohort 25 and above is an illustration of lower access to primary education in the past.

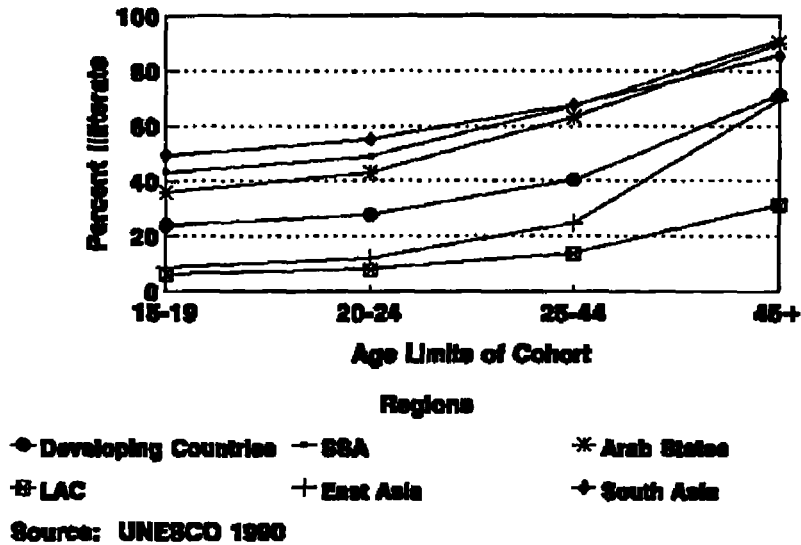
Figure 1: Progress in Literacy per Age Group, Developing Countries



Source: UNESCO, 1990.

Figure 2

Female Illiteracy Rate per Cohort Developing World - 1990



Male Illiteracy Rate per Cohort Developing World - 1990

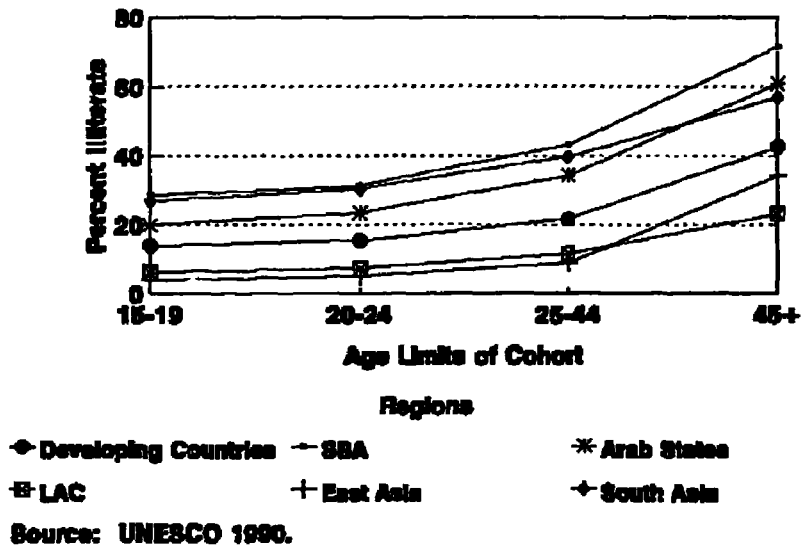


Figure 2 illustrates the differences in illiteracy rates for different regions in developing countries by age cohort and by gender. The greater slope of the male graph compared to female graph indicates the differential effect of education across gender lines. This means that, despite the improvement of girls' access to primary education, inequality in primary school provision for girls still persists. For example, in 1988 on average girls were 13 percentage points behind boys. The gender gap in primary enrollment was wide, especially in South Asia, Sub-Saharan Africa, and the Middle East and North Africa (Chowdhury 1993).

Illiteracy rates in rural areas are consistently higher than in urban areas (see Table 1). The gap between urban and rural areas was highest in Pakistan and followed by Nepal (29 percent) and United Republic of Tanzania (28 percent). In addition, gender and region may interact to induce even worse effects. Table 1 shows that rural females lag far behind their urban counterpart in literacy skills.

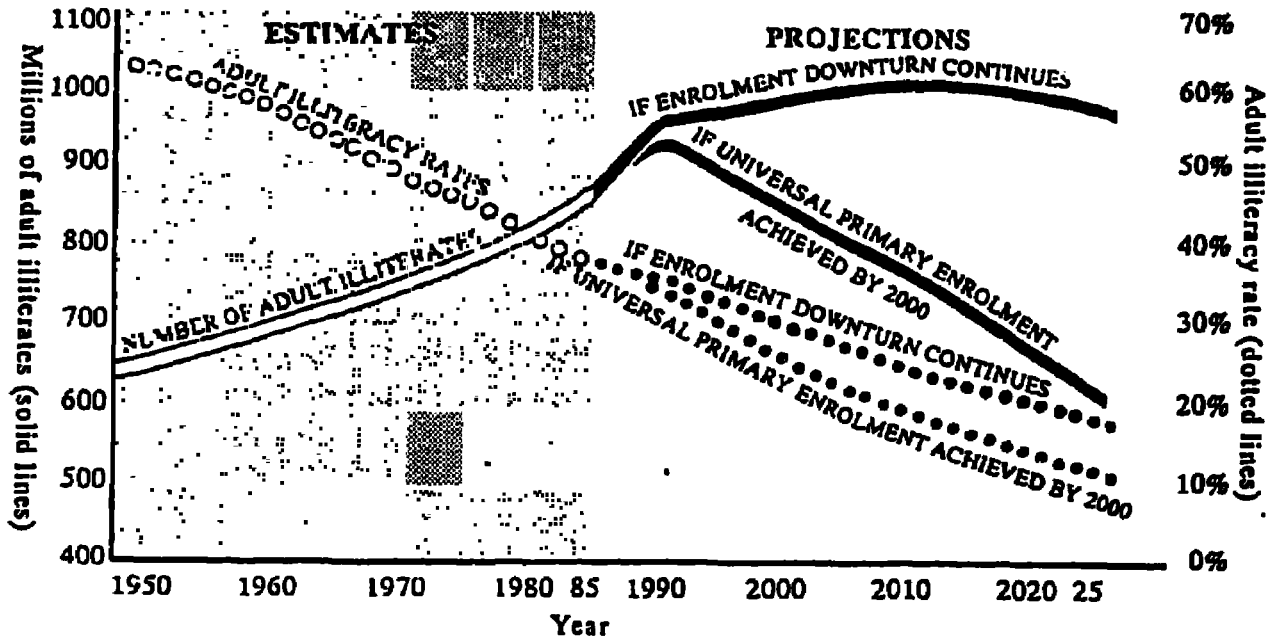
Table 1: Illiteracy Rates by Region and Gender, Selected Countries

Country, Region (year)	Illiteracy Rates (percent)	
	Both Sexes	Females
United Republic of Tanzania (1978)		
Urban	29.9	45.5
Rural	57.9	72.2
Urban/Rural Gap	28.0	26.7
Benin (1979)		
Urban	69.0	80.0
Rural	93.2	97.2
Urban/Rural Gap	24.2	17.2
Afghanistan (1979)		
Urban	62.5	79.2
Rural	85.3	97.8
Urban/Rural Gap	22.8	18.6
Bangladesh (1981)		
Urban	51.8	65.9
Rural	74.5	84.7
Urban/Rural Gap	22.7	18.8
Nepal (1981)		
Urban	52.6	67.0
Rural	81.3	92.4
Urban/Rural Gap	28.7	25.4
Pakistan (1981)		
Urban	52.6	64.1
Rural	83.2	93.4
Urban/Rural Gap	30.6	29.3

Source: UNESCO 1993b.

The above analysis is an indication that primary school enrollments have a profound impact on adult literacy. Figure 3 shows the percentage of adult illiterates, and projects the adult literacy status if: (i) the current downturn in school enrollment continues; and (ii) universal primary education is realized by the year 2000. This figure displays the powerful linkages between low primary school enrollments and adult illiteracy.

Figure 3: Number and Percentage of Adult Illiterates, 1950-1985 and Projection to 2025 in Developing Countries



Notes: Population estimates and projections: UN Population Division

Literacy estimates: UNESCO

Literacy projections: based on current enrollment estimates provided by UNESCO and projected according to the two assumptions described above.

Rationale for Eliminating Illiteracy

The social and economic benefits of literacy are well recognized by governments and policymakers. Yet, many developing countries have failed to ensure universal primary education — the key means of increasing literacy. This section deals briefly with the economic and social benefits for investing in literacy training through primary education. It should be noted, however, that socioeconomic returns aside, primary education has long been accepted as a human right, and therefore, an end in itself.

A substantial body of evidence indicates that literacy increases the productivity and earning potential of a population.² An educated person earns more and has greater labor mobility. Studies of the costs and benefits of schooling, using formal sector earnings as a measure of benefits, consistently indicate that average rates of return to education are high in comparison with returns to expenditures in other sectors, and that they are highest for primary schooling. These results hold for both social and private rates of return (Psacharopoulos 1993). While economic policies are crucial in expanding employment opportunities, education provides individuals with the ability to take advantage of such opportunities.

Recent evidence from East Asia indicates that by far the single largest determinant of economic growth for eight East Asian economies was primary education (World Bank 1993). This is confirmed by evidence from another study (Barro 1991). For example, in Korea in 1960, primary school enrollment, at 94 percent, was much higher than expected given the country's income level. This enrollment rate was associated over the next 25 years with a growth rate 1.4 higher per annum than it otherwise would have been. This added up to per capita incomes 30-40 percent higher than they would have been if primary school enrollment had been lower in 1960.

As well as yielding higher productivity in the formal sectors, education also increases farmer productivity. Evidence from 13 low-income countries shows that 4 years of schooling were associated with increased farm output of about 8 percent, after holding land, capital and labor-time constant (Lockheed et al. 1980). Studies have shown that in Malaysia, Ghana and Peru, on average one additional year of schooling is associated with an annual increase in output of between 2 and 5 percent, taking into account farm size, inputs, hours worked and other factors. Similarly, in Thailand, farmers with four years of schooling were three times more likely to adopt new fertilizers and other inputs than farmers with one to three years of schooling (World Bank 1991). This is attributed to the fact that better-educated farmers absorb new information quickly and are more innovative.

Education not only has high economic returns, it also generates non-market benefits. Literate people are more aware of their health and nutrition status and likely to take the advantage of social services available for them. This may, in turn, reduce child and mortality rates. For example, a research project based at the Alexandra Health Clinic in South Africa discovered a strong correlation between women's literacy and commitment to the immunization of their children (Bown 1990). Reports from the Health Education and Adult Education (HEAL) project in Nepal show that neo-literate women were more likely to use oral rehydration solution (Smith 1994). Evidence also confirms that educated women also have fewer children (Cochrane 1979).

Parental education also plays a large role in determining children's schooling and employment. Parents who are educated are more likely to understand the importance of schooling from their own personal experience and are more likely to send their children to school. For example, research found that parental education, especially a mother's education, was an important determinant of

² Research into the socioeconomic impact of literacy is troubled by the complex nature of causality. It cannot necessarily be concluded that a beneficial outcome of literacy training, such as higher earnings or reduced fertility, is caused by the acquisition of literacy per se, since the school attendance is undoubtedly accompanied by other personal changes and community changes. However, in almost all cases, we can presume that literacy is closely correlated with the outcome. For more discussion on this issue see Bown (1990).

school enrollment in Philippine households (King and Lillard 1987). Further, a study in Nepal found that literate women were more likely to help their children with their homework than non-literate women (Bown 1990). Educated mothers also provide positive reinforcement of their daughters' educational and occupational aspirations (Bach et al. 1985). Literacy also instills a sense of empowerment to those who hold it.

The spread of literacy has, therefore, emerged as a major factor in economic and social development. In fact, the linkages between education, health and nutrition are mutual and complementary. The strong linkages between education, health, nutrition and reduced fertility result in synergies, which can transform vicious cycles of poverty, illiteracy, malnutrition and disease into virtuous cycles of learning and health, equity and sustainable development.

Causes of Illiteracy

The question is that despite the vast educational advances of the last three decades, why do a large number of people remain illiterate? While the causes of low literacy rates are many, the immediate cause is the low levels of enrollment and retention at the primary level.

Of the 540 million primary school-age children in developing countries in 1990, 24 percent still were not enrolled in school. Tremendous expansion of primary school enrollment rates has been made in all regions of the developing world. However, in sub-Saharan Africa, although by 1990 the situation had improved from 1960, the absolute number and the relative share of the unschooled increased in the last decade (see Table 2)

Table 2: Out-of School Children, Aged 6-11 (percent)

Region	1960		1980		1990	
	All??	Female	All	Female	All	Female
Developing Countries	52	62	31	38	24	29
Sub-Saharan Africa	75	82	43	49	50	54
Arab States	61	72	33	43	24	31
Latin America	42	43	17	18	13	13
East Asia	47	56	25	30	14	16
South Asia	56	71	40	53	27	28

Source: UNESCO 1993c.

Moreover, gross enrollment ratios at the primary level tend to mask the high absenteeism, repetition and dropout as well as low attainment rates among children. To attain literacy, it is not only important for a child to enroll in school, but it is also necessary to complete a full cycle of primary schooling. In many developing countries, however, dropout rates are quite high. Typically, dropout rates were higher in the low-income countries, where fewer than 60 percent of those who enrolled in primary school reached the terminal year of the primary cycle in the 1980s; the rate for middle-income countries was about 70 percent (Lockheed and Verspoor 1991). Predictably, dropout rates were higher for girls (9.5 percent) than for boys (8.2 percent) in low-income countries in 1988; for middle-income countries, the rates were 6.1 and 5.9 percents for girls and boys, respectively.

Table 3 shows the number of new entrants to grade 1 and the dropout before grade four. The table indicates that in 1980, 36 million, or around one-third of the 103 million children who enrolled in primary schooling, did not complete grade four. The dropout rates are consistently lower in the Arab States followed by Eastern Asia, and highest in Latin America and the Caribbean and Southern Asia. Dropout rates for Sub-Saharan Africa remained the same (28 percent) for both 1980 and 1988. Although the numbers of new entrants to primary education in both 1980 and 1988 were lower in Sub-Saharan Africa than in Latin America and the Caribbean, the number of children dropping out before grade four was considerably higher in the LAC region.

Table 3: New Entrants and Dropouts, Both Sexes (million)

Regions	1980			1988		
	Total	Not Reaching Grade 4	Dropout Rate (percent)	Total	Not Reaching Grade 4	Dropout Rate (percent)
Developing Countries	103.5	36.3	35.0	94.6	25.2	27.0
Sub-Saharan Africa	9.8	2.7	27.0	10.6	3.0	29.0
Arab States	3.6	0.5	13.0	4.6	0.4	10.0
LAC	12.1	5.3	44.0	12.0	4.7	36.0
East Asia	47.6	13.1	28.0	34.1	5.3	16.0
South Asia	29.6	14.8	47.0	31.3	11.9	38.0
Least Developed Countries	7.4	4.1	55.0	8.5	3.4	40.0

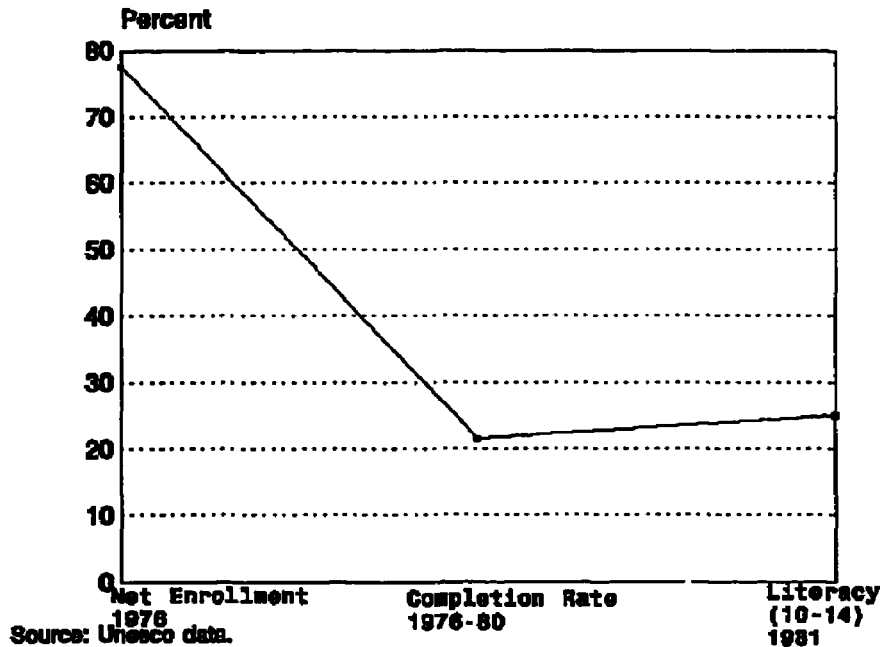
Source: UNESCO 1992, Table 1.

The importance of completing the primary education cycle for the acquisition of literacy skills cannot be over-emphasized. Bangladesh, for example, had a literacy rate of only 25 percent for the 10-14 age cohort in 1980, despite the fact that net enrollment rates reached 79 percent in 1976 (see Figure 4). Such an enormous gulf between the two indicators of educational achievement must be explained partly by the unusually poor retention rate of about 20 percent from 1976 to 1980.

Primary education provides the most opportune time to teach children to read and write. Over 50 percent of scheduled time in primary schools is dedicated to language skills and math which form the basis for more diversified learning and higher order thinking later on (Lockheed and Verspoor 1991). It is argued that a minimum of 4 years for formal schooling is necessary for the acquisition and retention of literacy skills³. However, many countries are a long way from ensuring that every child receives this minimum amount. Therefore, the key question remains, what obstacles exist to universal enrollment and completion of primary education in the developing world? This is the subject of the following section.

³ There is, however, some debate over whether the critical grade should be 4th or 5th (Unesco 1992).

Figure 4: Bangladesh Enrollment in 1976, Survival Rate 1976-80 and Literacy Rate 1981 (age 10-14)



Determinants of Low Enrollment and Wastage

The constraints that contribute to low enrollment and school wastage can be categorized as: (i) in-school-factors, e.g., availability of schools, quality and efficiency, school process, etc.; and (ii) out-of-school-factors, e.g., direct costs, opportunity costs and costs related to cultural demand.⁴

In-School Factors

Lack of physical access to schooling is a major cause of under-enrollment in primary schools in developing countries. Children often do not go to school because places are not available or schools are too far away from home. Availability of school places within a reasonable distance is a prerequisite for children's, especially girls', school participation. For example, studies of Ghana (Herz et al. 1991) and Bangladesh (Ahmed and Hasan 1984) found that female enrollment is negatively associated with distance.

In addition to access, cultural norms often act as an impediment to girls' schooling. In such environments, girls' enrollment may be dependent on access to single-sex schools, separate facilities such as lavatories and female teachers. Ahmed and Hasan (1984) found, for example, that families have withdrawn girls from schools lacking latrines in Bangladesh. In Nepal, reports indicate that the government's strategy of recruiting and training female teachers to work in rural areas has had considerable success in boosting female enrollments (Unicef 1978).

⁴ For an elaborate discussion on barriers to schooling see Colclough and Lewin (1993); King and Hill (1990); Chowdhury (1993) and Herz et al. (1991).

The quality of schooling is also an important determinant of participation and retention. Poor quality teaching, curriculum, instructional materials and school infrastructure can have an adverse affect on student learning. In Brazil and Colombia, for example, 80 percent of variances in student achievement have been attributed to school quality variables (Heyneman and Loxley 1983). One study found that the use of textbooks in rural Brazil in 1983 had a positive and significant effect (7-8 points) on achievement scores (Armitage et al. 1986). A child who performs badly in tests and other assessments is more likely to dropout than a child who makes good progress. Indeed, another Brazilian study indicated that children whose parents had no education were almost three times as likely to complete primary education if they had two or more textbooks than if they had none (Bustillo 1993).

It is often argued that gender bias in schools lowers female educational aspirations and so lowers their propensity to complete the primary education cycle. The bias is apparent in school authority structures, in male/female teacher ratios, in gender stereotyping in textbooks, in the distribution of teachers by subject (science and mathematics are often taught by male teachers), in teacher/student interactions and lastly, in teachers' attitudes and expectations (Chowdhury 1993).

Studies of textbooks in India, for example, found that the books contained many more male than female characters, and those female characters who appeared did so primarily in domestic, nurturing roles and were represented as passive, admiring and stupid or employed in less prestigious jobs (Kalia 1982). Wondimagegnehu and Tiku (1988), in an Ethiopian study, report that 18 of the 31 teachers interviewed felt that boys were better than girls in all academic subjects. Failure to provide girls with appropriate role models and the support and encouragement they need at school conceivably is an important factor in the persistence of low female participation.

Out-of-school Factors

Schooling is often very costly, even when government pays for much of it. In poverty stricken societies, the cost of schooling can be considerable for poor parents. The lower the family's income, the more prohibitive these costs become.

The direct costs to parents of schooling include fees, books, transport and clothing. Actual expenditures on schooling amount to about 4 percent of household consumption in low-income countries, 6 percent in middle-income countries and 8 percent in industrial countries. There is wide variance around the mean. In India and Pakistan, for example, with per capita GNP of about \$350, education accounts for 3-4 percent of household consumption compared with 9 percent in Kenya (\$370) and 13 percent in Zambia (\$290). Among countries with per capita GNP of \$1,200- \$1,300, education accounts for 9 percent of household consumption in Tunisia, 1 percent in Turkey, and 6 percent in Peru (Herz et al. 1991). In general, direct costs are similar for girls and boys. But in some countries, observation of cultural norms increases these costs for girls (e.g., parents' reluctance to send daughters to school without proper attire increases the cost of girls' school attendance).

The opportunity costs of schooling include chore time, sibling care, and foregone earnings. These may vary by sex, income group, region and country. The opportunity costs of educating children are higher for poor families because these families rely more on each family member to contribute to the family's economic survival.

Opportunity costs are incurred for both boys and girls, but in many cultures, the costs are higher for girls, who perform a larger share of family labor.⁵ For example, in Burkina Faso, time-use studies reveal that girls from the age of 7 on spend 3.5 hours a day on household chores compared with only 1.5 hours for boys (Herz et al. 1991). In addition to lost work, parents may feel that girls are forgoing important childcare, household, and craft training at home if they go to school. Further, in some societies in Sub-Saharan Africa, another opportunity cost of schooling is the earlier use that the family can make of the bride price for daughters. Delaying marriage because of schooling postpones receiving the bride wealth and may even reduce its amount if greater value is placed on younger rather better-educated brides (King and Hill 1993).

Other out-of-school factors include sickness and malnutrition. Educational interventions have traditionally ignored the fact that children cannot profit from high quality instruction if they are too sick, weak or distracted to concentrate. Studies examining the relationship between Protein-Energy Malnutrition (PEM), which is caused by poor diet, and cognitive development in infancy or early childhood, have found that while mild to moderate malnutrition does not cause primary learning deficits, it does affect cognitive processes. In addition, research shows that worm infections, impaired hearing and sight, and temporary hunger all have serious effects on school performance (Levinger 1994).

Lastly, limited economic opportunities affect children's earning potential and thus the returns from their schooling. This lowers parental expectations of the benefits of their children's education, and so reduces their willingness to invest in their children's future. Girls are particularly affected since, in general, they have fewer opportunities in the labor market than boys. Moreover, any economic benefits accrued from a girl's education may be transferred to another family when she marries.

Measures to Improve the Enrollment and Retention Rates

It is critical that access to primary education be improved. Increasing access to schooling requires expanding the supply of school places within children's walking distance.

One cost-effective mechanism for expanding the number of school places is to introduce double or multiple shifts. This reform has been widely instituted in Senegal, and has allowed an 11 percent increase in enrollment, with only a 2 percent increase in the teaching force (Colclough and Lewin 1993). Hence, it has the double advantage of both increasing enrollments and reducing unit costs. If multiple shifts shorten the school day, the school year can be made longer to compensate (World Bank 1990).

Other policy options include increasing class size and introducing multigrade classes. Research shows that variations in class-size from 25 to 40 students have no consistent effect on the performance of children in achievement tests (Simmons and Alexander 1980; Fuller 1987). Multigrade classes, with appropriately designed instructional materials and teacher training, have been shown to be an effective way of increasing participation and achievement in rural communities where low population densities and shortage of skilled teachers are common problems. With multi-

⁵ Exceptions include Botswana, Cote d'Ivoire, Chile, and Nicaragua, where boys perform a larger share of family labor (King and Hill 1993).

grade classes, rural schools are no longer required to have five teachers and five separate classrooms, but can provide instruction for several grades simultaneously. An evaluation of the Escuela Nueva schools in Colombia found that the program not only increased enrollment rates, but Escuela Nueva students also scored consistently higher in achievement tests than students in traditional rural schools (Colclough and Lewin 1993).

Access may also be increased for girls if single-sex schooling is provided. However, before undertaking the expense of building new schools, there is scope to accommodate parental concern for female modesty and security by making creative use of existing facilities. Schools could introduce double shifts to ensure that male and female attendance does not overlap. In other instances, parents may be happy to send their daughters to coeducational schools if they are held in religious buildings such as Mosques. In Pakistan, for example, the Mosque School Program, initiated in the early 1980s, has increased female enrollment in some areas (Lockheed and Verspoor 1991).

Teacher shortages are common in rural areas, and incentives may be required to encourage teachers, particularly female teachers, to work in remote regions. Incentives may include the provision of boarding facilities, increased training, or even additional pay. In Nepal, for example, the government offered home posting for women teachers, lowered entry requirements for some rural girls, subsidized their secondary education, and supported girls through conventional teacher training with a monthly stipend, travel expenses, medical care and tutoring. The number of female teachers increased and female enrollments have improved as a result (Herz et al. 1991).

In general, formal primary education is the preferred means of teaching basic literacy and numeracy skills. However, nonformal education methods may be appropriate in contexts where a sizable number of students drop out, or fail to be attracted by the formal system, or where formal schools are absent.⁶

Nonformal education programs have proven particularly successful in reaching marginalized groups such as rural females. For example, BRAC's Nonformal Primary Education Program (NFPE) in Bangladesh, has succeeded in attracting and retaining children, with 70 percent female enrollers and a dropout rate of only 1.5 percent for the full three-year program (Lovell and Fatema 1989). By contrast, the dropout rate in government schools is quite high; about 48 percent of those who enroll leave school before completing grade 3. In addition to greater internal efficiency, the BRAC schools operate at lower unit costs (approximately US\$15) than their government counterparts US\$16.4 in 1985) (Lovell and Fatema 1989; Lockheed and Verspoor 1991).

⁶ Nonformal education is defined as "any organized, systematic, educational activity carried on outside the framework of the formal (schooling) system to provide selected types of learning to particular sub-groups of the population..." (Coombs and Ahmed 1974:8). The World Bank's Education Sector Policy Paper (1980) extended its definition to include "Nonformal education — organized and systematic learning activity carried on outside the formal system — is neither an alternative education system nor a shortcut to the rapid education of a population. Rather, nonformal education and training provides a second chance for learning to those who missed formal schooling; it enables the rural or urban poor, within programs of "integrated development," to acquire useful knowledge, attitudes, and skills; and affords a wide array of learning activities directly associated with work..." (World Bank 1980:16)

Bodh Shiksha Samiti (BODH), an Indian NGO, has also had considerable success working with children in the urban slums of Jaipur, India (Aga Khan Foundation 1994). In both cases, most of the students were able to make the transition to the formal school system after three or four years. Experience suggests that a key condition for the success of nonformal education is to ensure equivalency with formal primary schools. Otherwise, they tend to be perceived as second class and rejected by students and parents. This was the case with the Rural Education Centers in Burkino Faso, where the program had to be abandoned due to its unpopularity with the villagers (Lockheed and Verspoor 1991).

Increasing the Demand for Schooling

To increase demand for education, steps can be taken to cut the direct costs of schooling. Several countries have taken measures to cut some of the direct costs by eliminating school fees, providing learning materials and free textbooks, free or subsidized transportation, direct subsidies to families for the purchase of materials and uniforms and school feeding programs.

However, reducing the opportunity costs to families is often as important as reducing direct costs. Policy options include changing the school calendar to accommodate seasonal demands for child labor, providing child care for younger siblings and instituting labor-saving technologies. In Bangladesh, flexible scheduling in satellite schools is one of several strategies used to increase the school participation of children (Chowdhury 1993). In India, a nonformal evening education program, designed to bring school dropouts back to the primary education mainstream, proved very effective (Naik 1982). Evidence from Colombia and China also confirms the effectiveness of part-time and flexible scheduling. Provision of daycare or creche facilities for younger siblings not only frees children for schooling, but also prepares the younger children for readiness for later schooling. China has one of the most comprehensive programs to provide daycare facilities at work sites and at schools (Bellew and King 1993). Another intervention that may meet the opportunity costs of children participation is the introduction of labor-saving technologies.

Mobilizing community support, by instituting education and information campaigns and encouraging parental participation, is another way of generating demand for schooling. If parents understand the benefits of education and are actively involved in its provision, they are more likely to encourage their children to attend. In Chile, for example, parents' interest in their children's education has increased since they have become involved in the construction and management of schools; student attendance and achievement has improved as a result (Schiefelbein et al. 1978).

Improving the overall quality of schooling is another effective mechanism for enhancing children's participation in school. The establishment of low quality alternative institutions, such as Pakistan's Mosque schools, is unlikely to equalize educational access in the long run (Warwick et al. 1989).

Many countries have addressed the question of the quality of education by providing textbooks, reducing teacher absenteeism, and improving teacher training. For example, a project in Pakistan incorporated measures to involve the village education committees to help in identifying motivated female teachers and to supervise teacher absenteeism. The Uttar Pradesh Basic Education Project focusses on increasing school quality and efficiency by strengthening community participation (by forming village education committees), improving readiness to learn by introducing early childhood education and care, improving teacher and staff performance, and improving curriculum and

textbooks. In India, efforts such as "Operation Blackboard" are meant to provide essential facilities to all primary schools including classrooms, toilets, blackboards, books and learning materials to improve quality (Herz et al. 1991; Chowdhury 1993).

Another effective quality-enhancing measure is the improvement of curricula design. Textbooks are the major definition of curricula in developing countries. However, the curricula presented in textbooks, particularly the scope and sequence of the material, are often poorly designed and factually inaccurate. Instructional design is important because inappropriately targeted curricula (either too difficult or too easy) frustrate students and increase failure. Hence, improving the content of textbooks holds great promise for simultaneously improving the learning of children and stimulating demand for schooling. Removing gender and other biases in curricula and materials, and gender-sensitivity training for teachers and administrators, are also expected to enhance the achievement of disadvantaged groups. Several projects in Bangladesh, India, Senegal and other countries have taken initiatives to eliminate biases in texts (Chowdhury 1993).

Time-use studies show that when teachers devote more time to instruction, students learn more. Sufficient instructional time is particularly important in the early grades and for children from impoverished families who spend few of their out-of-school hours on learning (Lockheed and Verspoor 1991). Thus, the expansion of instructional time represents a promising avenue to pursue. This can be done by increasing the amount of official time allocated to learning and increasing the amount of actual time spent on learning.

Given the evidence relating to the impact of nutritional deficiencies on cognitive processes, school feeding programs (SFPS) are advocated as a means of improving children's learning capacity. SFPS are also meant to improve girls' and poor children's enrollment and attendance by offsetting some of the costs of attending school. To be effective, however, SFPS should be designed as part of broader intervention that also addresses other school factors contributing to learning deficiencies (World Bank 1990; King and Hill 1993).

Lastly, teacher training, both pre-service and in-service, is essential for improving the quality of education. Recurrent school-based in-service teacher training can encompass areas from practical methods of teaching major subjects to ways to adapt the curriculum to the social and physical environment of the students, understanding how children develop and learn, methods of evaluating teaching and learning, management of classrooms, and parent-teacher and community relations. In-service training programs in India, Nigeria and Thailand have provided incumbent teachers with a new repertoire of pedagogical skills that focus on more participatory teaching behaviors (World Bank 1990).

It is not enough, however, that teachers are well trained in subject matters and have pedagogical proficiency. Low teacher morale leads to high rates of teacher absenteeism and attrition. Teacher absenteeism reduces student learning time, while teacher attrition increases the costs of teacher training. The causes of lack of motivation are low salaries, poor working conditions, insufficient career advancement opportunities and/or weak support services. For example, when salaries are low (e.g., in Somalia, teachers earn the equivalent of \$6 per month, or 25 percent of GNP per capita annually), teachers are likely to supplement their incomes by holding other jobs. This increases teacher absenteeism. Evidence from other countries indicates that substantial proportions of primary teachers hold second, and sometimes third, wage-earning jobs. Further, in many countries, teachers' career and salary advancement seldom depend on performance. Salaries tend to be tied to civil

service pay scales, with raises awarded on the basis of certificates and length of service. Thus, there are few incentives for teachers to perform well. Career ladders linked to redesigned salary scales can have a positive impact on teacher motivation (World Bank 1990).

Financing of Primary Education

To improve the situation of primary education, governments should focus their attention to this sub-sector. Education in developing countries, in general, is financed and provided by the government. The expansion of education, therefore, depends on fiscal resources. In recent years, due to intersectoral competition for limited public funds and adverse macroeconomic conditions, most countries do not have the ability to continue expanding all levels of education simultaneously. Many developing countries underinvest in education. In addition, there is misallocation of resources that favor higher education to the neglect of primary education.

Table 4: Public Expenditure per Student as Percentage of Per Capita GNP by Region (around 1980)

Region	Primary	Secondary	Higher
Anglophone Africa	18	50	920
Francophone Africa	29	143	804
South Asia	8	18	119
East Asian and Pacific	11	20	118
Latin America	9	26	88
Middle East and North Africa	2	28	150
Developing Countries	14	41	370
Developed Countries	22	24	49

Source: Mingat and Tan 1985.

The present distribution of public resources on education, therefore, is highly unequal, as shown in Table 4. In many countries a considerable proportion of public expenditures for education goes to middle- and upper-income families, because richer groups are over-represented at all levels of education, and particularly at the university level. Public expenditure per student increases by each level of education. In African countries, public expenditure per student on higher education is 28 (Francophone Africa) and 50 (Anglophone Africa) times that on primary education. Further, only a small number of people benefits from high public expenditure per student in higher education. For the developing countries as a whole, only 7 percent of the school-age population enroll in higher education (Mingat and Tan 1985). In addition, students who benefit from highly subsidized higher education come from relatively wealthy families. The major portion of subsidies is received by students from the richest class (World Bank 1986). Therefore, there is a need to redress the inefficiencies and inequalities by recovering the public cost of higher education and reallocating the government spending toward the level with the highest social return. This would not only equalize the access to educational opportunities among various social groups, but also contribute to the efforts in universalization of primary education.

The Importance of Adult Education in Tackling Literacy Problems

In view of the high illiteracy rates in the adult population, a dual-pronged approach to combatting illiteracy is required. This entails: (i) literacy training for adults and; (ii) primary education for children.

Despite its declining popularity among policymakers and educators, adult education is a sound investment. Teaching adults to read and write simultaneously provides positive reinforcement for investments in the "next generation" and enhances the productivity and well-being of the current adult population.

Literate adults are not only more likely to send their children to school and provide them with a nutritious diet, they are also better equipped to participate in economic activities outside the subsistence and un-remunerated sectors and are likely to be imbued with greater self-confidence and capacity for independent action. These arguments are clearly borne out by impact studies of recent NGO adult literacy projects (see Box 1).

Hence, the potential impact of adult literacy on the productivity and well-being of present and future generations cannot be ignored. However, in the past, literacy campaigns and programs have been met with mixed results. In many cases, the poor performance of students and the extent of drop-out and relapse into illiteracy has been very disappointing (see Table 5).

Table 5: Efficiency Rates of Adult Literacy Campaigns

Country	Initial Enrollment	Percent Taking Exams	Percent Passing Exams	Efficiency Rate (percent)
Tanzania	466,000	63	33	21
Iran	94,700	50	30	15
Ethiopia	36,800	59	43	25
Ecuador	17,500	57	41	25
Sudan	7,400	32	25	8
Surkhet (Nepal)	7,474	50	94	47

Source: Abadzi 1994.

Table 5 illustrates the fact that these programs generally lack high efficiency rates, ranging from 8 percent in Sudan to 47 percent in Nepal. It indicates that fewer than 50 percent of participants in the campaigns reviewed met the mastery criteria set by the programs.

This has led to a growing reluctance among government and donor agencies to invest in this area. For example, growing frustration with the difficulties of implementation has led to a decline in interest in adult literacy at the World Bank. As a result, the percentage of Bank-financed projects with an adult literacy component has dropped dramatically. In contrast to the high concentration of

projects in the 1970s,⁷ when nonformal education was in vogue, the Bank has only invested in one adult literacy project since 1990. Today, it is generally argued that resources are better invested in the "next generation." However, such neglect and pessimism is misguided.

First, not all literacy programs are doomed to failure. Evidence suggests that with careful and imaginative planning, past mistakes and shortcomings can be avoided. For example, preliminary analyses of a Health and Adult Literacy pilot project in Nepal indicate that literacy gains have been higher than those of previous Nepalese programs. Neo-literate women in one village unanimously agreed to meet every day for class during the post-literacy phase, even though the class was only intended to meet 3 times a week (Smith 1994). Their commitment is testimony to the project's success in motivating and retaining its participants.

Second, past failures provide valuable lessons for the future, and can be used to enrich our understanding of the determinants of program success. These can be summarized as follows:

(a) Adults will persist in the study of reading if they clearly understand its utility in their own world. The integration of literacy training into income-generating activities and linking literacy courses with formal diplomas, for example, may be an effective means of emphasizing the immediate utility of literacy. In addition, an effective way of keeping learners motivated is to make the literacy class a place where learners can discuss the problems and needs of their communities. Action Aid, an NGO, is currently undertaking a research project to explore the possible uses of Participatory Rural Appraisal (PRA) techniques to generate "dialogue" within literacy programs in Bangladesh, El Salvador and Uganda (Action Aid 1994).

(b) Adult centered approaches, which entail substantive consultations with participants and attention to the cognitive processes particular to adult acquisition of literacy, are most effective. For example, since adults do not remember meaningless items as easily as children, opportunities to show scripts in context and minimize unconnected words and sounds should be maximized.⁸

(c) Provision of opportunities to practice reading and writing is critical, particularly in remote rural areas, in order to maximize the probability that neo-literates will retain their newly acquired skills. Relapse into illiteracy is also influenced by the length of the literacy training. Past experience suggests that a minimum of 300 hours of basic literacy training is required for skills to be retained (Abadzi 1994).

However, many questions remain entirely or partially unanswered. Is literacy acquired more efficiently using national languages, or mother tongues? What size of programs should be developed? Is it possible to develop large and efficient programs? Who should be encouraged to participate in literacy programs? What activities should be financed? Which teacher characteristics are the most and the least conducive to the dissemination of adult literacy? Should literacy be taught with numeracy? Hence, it is imperative that donor agencies and governments invest in research to

⁷ Out of 305 World Bank-financed education projects between FY1970 and FY1985, 92 had Nonformal Education and Training (NFET) components. Of these, 45 (or 30 percent) had an adult literacy component (Romain and Armstrong 1987).

⁸ For a more detailed discussion, see Abadzi (1994).

resolve these methodological and strategic questions and so promote a more sophisticated understanding of the determinants of program success.

Box 1: Nongovernmental Literacy Projects - Impact Studies

Organization	Location	Impact
Young Women's Christian Association	Madras, India	Neo-literate women set up and successfully managed cooperative grinding unit.
Adult Literacy Organization of Zimbabwe (AZOL)	Zimbabwe	Literacy groups formed production unit, rearing poultry, cultivating vegetables etc...
Crafts Association	South Africa	In urban areas, neo-literate members were able to keep accounts and communicate with customers through writing; in rural areas, literacy skills helped members with measurements for textile printing and designing. Rural members also began to take an interest in AIDS prevention and other health issues.
Elimu Learning Organization	Kivu, Zaire	Neo-literate women formed women's organizations; one group collectively set up and managed a grocery shop.
Huli Church Literacy Program	Papua New Guinea	Neo-literate women gained self-confidence and emerged as church leaders.
Oxfam	Chile	Neo-literate women began to play a more active part in community organizations, such as public health groups and neighborhood soup kitchens
Oxfam	Lima, Peru	Neo-literate women organized the distribution of a free glass of milk for children and pregnant women (provided by the municipality).
Oxfam	Chimbote, Peru	Neo-literate women organized groups for income generation.
Concern	Kotsi, Sudan	Literacy training led to the establishment of a kindergarten by local women.
Christian Aid	Brazil	Literacy training held for prostitutes led to the setting up of a primary school by the neo-literate women, for their own and other local children.

Source: Adapted from Bown 1990.

In summary, combatting adult illiteracy is a complex and challenging task. But, it is not unsurpassable and the potential impact of adult literacy on the lives of current and future generations demands renewed effort and commitment to overcoming the obstacles of dropout, relapse, and low achievement. In this effort, it is crucial that governments and donor agencies collaborate with experienced NGOs whose work in the field has already provided invaluable insights.

What can be done?

Based on the discussion above, there are definitive steps which governments and policymakers can take to promote literacy throughout the developing world. The main policy in the fight against illiteracy must be to stress universalization of primary education. This represents a long term, visionary approach to the problem. The most effective way to reduce adult illiteracy is to prevent it from developing in the first place. This policy line will save what can be saved: the next generation. To achieve the intended goal of eradication of illiteracy the donor and multilateral agencies should have policy dialogue with borrower countries to set a goal for universalization of primary education and take appropriate measures to achieve such a goal.

To achieve the goal there is a need to mobilize additional funding for primary education. By expanding lending operations to the primary education sub-sector, international agencies should demonstrate their full support. Government policy and international lending should be focused on the following:

- High priority should be given to measures that would improve children's access, learning and completion of primary schooling.
- Special measures should be taken to achieve parity between girls and boys and between different social groups in enrollment, learning and completion of primary schooling. Efforts should be taken to improve the situation of the most disadvantaged groups, specifically girls in rural areas.
- Governments should not completely abandon adult illiteracy programs which potentially have high economic and social returns for current adult and child populations. Necessary measures should be taken to overcome the traditional barriers to program success. This should entail on-going research into the relative effectiveness of different types of literacy programs.

An initial step may be to establish a specific definition of literacy to which all studies could adhere. This would allow cross cultural literacy studies to be comparable and yield valid generalizations. It would also contribute to the quantification of literacy, making it a more manageable subject. With an established definition, researchers could better help policymakers and educators in confronting the affliction of illiteracy throughout the world for both children and adults.

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