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Same language subtitling: a butterfly for literacy?

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Same language subtitling (SLS) refers to the idea of subtitling motion media programmes (television and film) in the 'same' language as the audio. This simplest of additions in existing television programmes, especially film songs and music videos, can make a quantum contribution to the improvement of reading skills of over 325 million neo-literate people in India. Song videos are watched with great passion all over India, in every state and major language. Earlier work on SLS reported that it was found to enhance the entertainment value of televised songs for both literate and neo-literate viewers. This paper discusses a controlled experiment to 'measure' the impact of SLS on the reading skills of disadvantaged school children. The results confirm that SLS of film songs leads to reading skill improvement, thus reaffirming the enormous potential of this simple and economical approach for mass literacy skill development in India.

Introduction

The 'Butterfly Effect' is a term coined in 1961 by meterologist Edward Lorenz. His contention was that a butterfly flapping its wings in one part of the world could alter the weather somewhere else. Is there such a butterfly for literacy? A butterfly that could flutter ever so gently to transform the literacy forecast of a nation that is one billion strong and home to one-third the world's illiterates? Possibly, even if it sounds somewhat overstated! And that simplest of creatures is 'same language subtitling' (SLS). As the term implies, SLS refers to the idea of subtitling motion media programming in the same language as the audio. No translation, just verbatim matching of audio and text in the same language—Hindi programmes subtitled in Hindi, Tamil programmes in Tamil and so on in all the 24 official languages and numerous other dialects. Unbelievable as it first sounds, what the multihued butterfly can do for the weather, potentially, SLS in its linguistic diversity can do for literacy in India.

Relapse and low levels

At the turn of the millennium, India's literacy rate, for a population of over one billion, is estimated to be 65%. That makes India a country of roughly 560 million literate and 300 million non-literate people in the 7+ age group.

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There are, however, no statistics available on the skill levels of the 560 million whom we call 'literate'. What percentage is literate at competencies above Grade V or even Grade III levels? How many of the so-called literates can read a newspaper? Write a letter? Fill out applications? These are important questions in a country where an ability to merely sign one's name often gets equated with literacy.

A conservative guesstimate of the semi or neo-literate[2] population is 325 million. This is roughly 60% of those we consider to be literate. Thus, a challenge of gargantuan proportions facing India is not only to make one-third of its population partially literate but also to create opportunities for another one-third to move from partial to functional and irreversible literacy.[3] This move is necessary in a lifelong sense, since literacy skills beyond a minimally functional level have the potential to expand the scope of informed choice, decision-making and opportunities for the family in unpredictable ways. The National Literacy Mission (NLM), created in 1988, has enjoyed considerable success in creating large numbers of semi-neo literates through its Total Literacy campaigns (TLCs). However, the post-literacy (PL) (read Post-Neo-Literacy) agenda has lacked imagination. In fact, according to the NLM's own Report of the Expert Group (1994), neo-literates' relapse into illiteracy could be as high as 40%.

Everyday literacy

Literacy skills, like any other skill, need constant practice for maintenance or improvement. Unfortunately, literacy transactions are often absent in the lives of many neo-literates because they have not yet attained the minimally functional level. The PL agenda of the NLM has relied heavily on neo-literates' enrolment in PL centres. Generally, the classes are held in the evening or at night. Nationally, actual participation was found to be as low as 31.51% of the 'proposed' 13.4 million neo-literates (NLM 1994). As it is, the proposed number of neo-literates targetted by the NLM is a small fraction of the national pool of people with some but lower than functional literacy skills. And here too, participation in PL centres is less than a third of the target. Furthermore, participation in PL and/or continuing education (CE) centres is programmatic and therefore limited in duration. How does a partially literate person, then, continually improve one's skills throughout life? This is where the concepts of everyday and lifelong literacy transactions assume critical importance.

In the everyday context, the national strategy has depended on the creation of libraries and making available wall-papers, magazines and other reading material designed for neo-literates. Both the PL/CE centre approach and the creation of learning spaces and material for literacy as pursued by the NLM are necessary but grossly insufficient in terms of sustained and broad-based reach. Generally, in these situations, the contact with participants tends to be short term and costly, serving only a small percentage of the partially literate population. Most seriously, these strategies require the learner to be highly self-motivated for post and lifelong literacy.

Lifelong literacy cannot be achieved through fixed duration projects but requires the integration of skill-practice into everyday life. For 325 million neo-literates, this

is impossible to achieve without a creative use of the mass media. National policy on literacy has been lacking *vis-à-vis* mass media. According to the NLM's Web site:

> All India Radio (AIR) and Television (Doordarshan) are playing a positive role in: disseminating the message of literacy, broadcasting radio plays and telecasting short films on adult education, organizing interviews, quizzes and 'quickies' to sensitise the viewers about the objectives of the NLM.[4]

The role of the media is primarily seen to be motivational—to disseminate the message and sensitize viewers but not to create an environment in which direct literacy interactions can be unleashed between the people and media. SLS is one approach that can spawn through television an endless volley of effortless reading transactions. In the long run, it can not only promote a culture of literacy, but also, almost surreptitiously, raise the skill levels of a nation.

According to the annual report compiled by the Audience Research Unit of Doordarshan (National Television), 479.1 million, a little less than half of India has access to television (Table 1). On the whole, there are nearly 27 million more rural viewers than urban viewers. From 27.8 million TV homes in 1990, TV had arrived in 69.1 million homes by 1999. In the 1990s, increase in the number of TV homes was 10–14% annually. Recently this figure has stabilized to an annual increase of 10%.

Television clearly commands an overwhelming share of media presence in an average Indian household. The dominance of television is matched in programming only by the insatiable appetite for film-based entertainment. SLS capitalizes on this powerful union of television and film to infuse everyday entertainment with reading practice. This simplest of additions in popularly watched song programmes can contribute to literacy, not by compromising entertainment but by enhancing it. The potential of SLS in India and its popularity with viewers has been discussed elsewhere (see Kothari 1998, 1999, 2000, Kothari and Takeda 2000). d'Ydewalle *et al.* (1991) have tracked eye-ball movement to prove that reading of television subtitles is automatic and unavoidable. Parks (1994) cites a number of research studies that have found that captioned TV enhances language and literacy, including reading skills, comprehension and vocabulary, among students of English as a second language (ESL). In the next section, we describe a controlled experiment, conducted in a primary school, to explore the effects of SLSed songs on the reading skills of neo-literates.

School experiment[5]

Methods

A two-phase study design with a pre- and post-test was followed. The experiment was conducted over a three-month period at the Memnagar Primary School, located in the heart of Ahmedabad city. The school is representative of most government primary schools. The medium of instruction at the school is Gujarati. Hindi is taught from grade V. Enrolment at the school is entirely from low-income families—primarily children of migrants from the states of Madhya

Table 1. TV homes and viewers (millions).

	Urban	*Rural*	*Total*
TV homes	36.9	32.2	69.1
Home viewers	191.4	170.7	362.1
Other viewers	35.0	82.4	117.4
Total viewers	226.4	253.1	479.5

Source: Doordarshan (1999: 29).

Pradesh, Rajasthan and rural Gujarat. They now live in nearby slums and generally work as labourers, hawkers and small traders. The total number of students enrolled in grades I to VII (the maximum attainable at the school), was 458 at the time of the experiment. No fee is charged. Children automatically progress from grade I to V regardless of internal exams. Teachers are instructed from the school administration not to fail anyone because that could lead to child dropout. In grade V, children take a State Board exam, which is the only filtering point up until then. As a consequence, it is not uncommon to find children in grades IV and V who can barely read from their own textbooks. Since many children are first generation learners, the parents' role in their education at home is minimal. The school has no electricity despite being in the heart of the city. For the experiment, electricity had to be 'brought' from an adjoining residential flat.

Three mixed groups were created from all the students' of grade IV and V. Each group had 46 children. The groups had an equal number of children from both grade levels and had the same male–female ratio (58% male and 42% female). Hindi film songs recorded from *Chitrahaar*[6] were subtitled earlier. Groups received one of the following treatments:

- *Subtitle*: five subtitled Hindi film songs were shown in each session, three sessions/week, generally;[7]
- *W/O subtitle*: same five Hindi film songs, but without subtitles, were shown in each session (three sessions/week); and
- *Control*: control group, which saw no songs.

A session was comprised of five songs to mimic the 30 minutes duration of the *Chitrahaar* programme. A test was designed, not to measure functional literacy and its various dimensions, not even reading and its facets of comprehension, fluency, etc., but vary narrowly to measure recognition/reading of syllables and words. Within the short time frame of the experiment and the basic levels of literacy we were working with, one could, at best, expect improvement in syllable and word reading ability. If improvement even in this narrow sense could be proven to result from subtitling, then it is confirmed that viewers do not just ignore the subtitles but read them, and one can expect higher order improvement with more frequent and longer term exposure to subtitling.

The test contained four blocks of unconnected words. In the first block there were 38 mono-syllable words and in each of the second, third, and fourth blocks, there were 20 words of two, three and four syllables respectively. The mono-syllable words were created to cover all the sounds and *matras* (roughly translated as

vowels) existing in Hindi. The 2–4 syllable words were taken randomly from the songs shown. Children's reading of the words was recorded and simultaneously marked for mistakes—syllable-wise—on a separate sheet. Syllable-wise marking means that, in each word, only the syllables read wrongly were marked. This ensured an accurate measure of changes in reading ability at the syllable level. Since all the words were unconnected, it is unlikely that merely practice in the pre-test could have led to any significant improvement in the post-test conducted after a gap of over three months. The exact same pre- and post-test instrument was used to measure reading ability. The post-test was conducted after a total of 35 viewing sessions spanning a three month period.

Scoring of the tests looked at the number of syllables read correctly in the mono-syllable block and the number of syllables and words read correctly in each of the 2–4 syllable blocks.

Results

Test scores are reported as follows:

- T-1: number of syllables read correctly in the mono-syllable block.
- T-2: S=number of syllables read correctly in the two-syllable block.
  W=number of words read correctly in the two-syllable block.
- T-3: S=number of syllables read correctly in the three-syllable block.
  W=number of words read correctly in the three-syllable block.
- T-4: S=number of syllables read correctly in the four-syllable block.
  W=number of words read correctly in the four-syllable block.

For two group comparisons, t-tests were used. For three group comparisons, an analysis of variance was done.

Pre-test. The pre-test results confirm that no two groups were significantly different from each other at the $p \leqslant 0.05$ level. Group means for the above test scores were very similar. The slightly higher scores tended to be in the Control group. There was no such pattern of difference between the Subtitle and W/O Subtitle groups (Table 2). For all the three groups, the results of the reading exercises were

Table 2. Pre-test means.

Group	*Pre-test means*						
	T-1	T-2		T-3		T-4	
		S	W	S	W	S	W
Subtitle	19.91	23.71	8.34	36.56	7.10	54.20	7.98
W/O subtitle	20.93	23.86	8.47	34.33	6.44	53.07	7.67
Control	21.80	23.40	8.98	35.24	7.76	56.73	9.46

independent of sex. As expected, the pre-test means of certain scores were significantly higher for grade V as compared to grade IV students.

Post- and pre-test comparisons. Table 3 shows the mean improvements in reading skills for each group. On average, a child in the Subtitle group read 1.57 syllables more in the post-test score for the mono-syllable block. He/she read 2.93 syllables more and 1.51 words more in the scores for the two-syllable block and so on. On every score, the mean improvement of the Subtitle group is the highest, followed by the W/O Subtitle group and lastly the Control Group. Group comparisons of means that were found to be significantly different ($p \leqslant 0.05$) are italicized. For instance, improvement in the Subtitle group was more than in the control group on several scores (T-1, T-2-S, T2-W, T-4-S) at $p \leqslant 0.05$. There were no statistically significant differences found between the Subtitle and W/O Subtitle group and between the W/O Subtitle and Control group, on any score.

These findings can be interpreted as follows but would need to be borne out by a much longer study: Gujarati children's Hindi reading skills can improve, at least initially, simply from exposure to the language, even through unsubtitled songs. However, this is not likely to result in rapid or sustained improvement for most

Table 3. Comparison of treatment groups: post-test minus pre-test result (means).

Group	*Pre-test means*						
	T-1	T-2		T-3		T-4	
		S	W	S	W	S	W
Subtitle	*1.57*	*2.93*	*1.51*	4.15	1.29	*5.29*	1.39
W/O subtitle	0.62	1.33	0.44	2.49	0.86	3.72	0.95
Control	*−0.56*	*0.84*	*0.35*	1.95	0.55	*1.49*	0.39

Table 4. Gender comparison: post-test minus pre-test result (means).

Male							
Group	T-1	T-2		T-3		T-4	
		S	W	S	W	S	W
Subtitle	1.52	*2.24*	*0.88*	3.60	1.36	5.76	1.68
W/O subtitle	0.59	1.08	0.12	3.15	1.19	3.35	0.96
Control	−1.08	0.67	−0.08	1.96	0.38	*0.21*	*−0.21*
Female							
Group	T-1	T-2		T-3		T-4	
		S	W	S	W	S	W
Subtitle	1.65	*4.00*	*2.50*	5.00	1.19	4.50	0.94
W/O subtitle	0.67	1.71	0.94	1.47	0.35	4.29	0.94
Control	0.05	1.05	0.89	1.94	0.78	*3.29*	*1.24*

people. A surer approach to reading improvement is to show subtitled songs (since the improvement was also statistically significant).

Comparison of the performance of boys and girls (Table 4) reveals that girls in the Subtitle group improved more than boys in the same group while reading the two-syllable block ($p \leqslant 0.05$). Girls also tended to have higher means than boys in the Subtitle group but all of the scores were statistically significant. Although it is premature to explain this finding, it is possible that girls tend to know the lyrics of popular songs better to begin with (since they are more home-bound and thus listen to the radio and watch TV more). However, we do not know this for sure. A longer-term experiment comparing girls and boys is required.

For every block, the score at the syllable level was combined with the score at the word level to arrive at a consolidated score (C), reported in Table 5. Half credit was given for correctly read syllables in otherwise incorrectly read words. For example, the consolidated score for the block of three-syllable words was calculated by assuming that six syllables read correctly, in otherwise incorrectly read words, is equivalent to correctly reading one three-syllable-word. This further analysis confirmed, more firmly, a similar pattern of statistically significant improvement in the subtitle group over, both, the Without Subtitle and Control groups (Table 5).

Statistically significant differences ($p \leqslant 0.05$) were found on C-2 score between the Subtitle and Control groups (marked '*' in Table 5), and between the Subtitle and W/O Subtitle group (marked '#'). Reading improvement seems to have occurred most in the Subtitle group and this improvement is most observable in the mono- and two-syllable-word blocks. This is not surprising. In 35 viewing sessions, this is the extent of improvement one can expect from a neo-literate sample that could, to begin with, read only about 20 mono-syllables out of the 38 presented. For improvement to be measurable in three and four syllable words, more sustained exposure to SLS may be required.

This three-month experiment has shown that subtitling does indeed lead to syllable and word reading improvement, most apparent with mono-syllables. A safe corollary is that greater exposure to subtitling will also lead to reading improvement in general. If this is possible in a short span of less than 18 hours of exposure to subtitled songs, one can speculate what it can do over a lifetime of subtitled viewing. To hazard a guess, with the plethora of film-song programmes shown on TV, the average person probably watches at least two hours of song-programming a week. Improvement comparable to that found in the experiment can be expected in nine weeks if all the songs that are telecast are also SLSed. Imagine the lifelong impact that SLSed songs could have on the millions of people in India. What would have already happened to reading skills by now if policy-makers could have taken a decision to subtitle all songs since the 1970s,

Table 5. Group comparison of consolidated score: post-test minus pre-test result (means).

Group	*T-1 or C-1*	*C-2*	*C-3*	*C-4*
Subtitle	*1.57*	*1.49**#	1.34	1.35
W/O subtitle	0.62	*0.55* #	0.84	0.94
Control	*−0.56*	*0.38**	0.60	0.38

when TV expanded rapidly, or in the late 1980s when NLM began generating millions of neo-literates through the campaign mode?

Same language subtitling: a beginning in Gujarat

Same language subtitling is no more an idea with potential for 'experimental study' only. Gujarat is the first and only state where it recently became a reality. This has been possible due to the institutional collaboration of the Indian Institute of Management, Ahmedabad (Ravi J. Matthai Centre for Educational Innovation, RJMCEI), Doordarshan Kendra (DDK), Ahmedabad,[8] and the Development and Educational Communication Unit, DECU, of the Indian Space Research Organisation (ISRO).[9] Since May 1999, the weekly telecasts of *Chitrageet*—a programme of Gujarati film songs—are being subtitled in Gujarati. The subtitled words change colour to exactly match the audio, making it easy for neo-literates to follow the song. To measure the impact this could have on the reading skills of adults, 516 neo-literates are being closely monitored in Surendranagar and Ahmedabad districts of Gujarat. Data from the post-test are still being collected. A cursory comparison of pre- and post-test scores suggests that adults who watched the subtitled *Chitrageet* more frequently improved their syllable and word recognition skills 'measurably' more than others who did not watch the programme at all or watched it rarely.[10]

Hundreds of postcards received from literate and neo-literate viewers alike have almost unanimously been in favour of subtitling. From the responses it is clear that adults also read the subtitles, feel that subtitling enhances the entertainment value and make conscious links with learning. For example, improvement in language, reading, spelling and vocabulary improvement are ascribed to SLS, not only for themselves, but also for their children. Generally, people enjoy SLS because it helps them sing along, know the song lyrics, even write down parts of the song. Due to the complementary effect of sound and subtitles, many claim to 'hear' the songs better. For instance, Rameshbhai Naik, a painter from Kadi village in Mehsana district, wrote: 'A partially deaf member in my family started dancing while watching this programme'.

Ridiculously economical

Same language subtitling weaves lifelong literacy transactions in a home environment at a ridiculously low per-person cost as compared to what the NLM and states are spending for post-literacy today. Let us take the example of Gujarat. According to the 1993–1994 figures of the NLM (1994), a total of US$616 000 were sanctioned for a proposed 0.815 million neo-literates in the state. Thus, the combined centre and state allocation for PL in the state is around US$0.75 per person per year. Based on the 1991 census, the population estimate of Gujarat in 1993 was 43.2 million. This makes the 7+ population estimate in the same year around 37.2 million. The estimated literacy rate at the end of 1993 was 64.7%. That means that Gujarat then had around 24 million people considered to be literate. Here is where the first assumption is made. Neo-literacy will be higher in states with lower literacy rates. To suggest a rough scale for neo-

Table 6. Comparison of expenditure (US$) and coverage (million).

State	*Post Literacy Projects*			*Subtitling on TV*		
	Government expenditure (PP/Annum)	Neo-literate coverage (million)	%	Expenditure (PP/Annum)	Neo-literate coverage (million)	%
Andhra Pradesh	1.50	1.158	5.6	0.0043	7.266	35
Gujarat	0.75	0.331	2.4	0.0066	4.903	35
Karnataka	1.55	0.678	4.5	0.0061	5.272	35
Madhya Pradesh	2.75	0.002	0.0	0.0043	7.335	35
Maharashtra	1.00	0.417	1.4	0.0030	10.500	35
Orissa	0.25	0.185	1.8	0.0091	3.517	35
Rajasthan	3.61	0.035	0.3	0.0068	4.743	35
Tamil Nadu	1.61	0.868	4.7	0.0050	6.489	35
West Bengal	1.27	0.522	2.2	0.0039	8.267	35
Hindi Belt	–	–	–	0.0007	42.689	35

literacy, in a state with 100% literacy, 30% of the 'literate' population is assumed to be neo-literate. In a state with 50% literacy, 70% of the 'literate' population is assumed to be neo-literate. Thus, at the end of 1993, 58% of the 'literate' or 14 million can be thought to have been neo-literate. Of the 0.815 million neo-literates enrolled in PL programmes in Gujarat, only 0.331 million participate. Hence, the state PL initiatives covered only 2.4% of the state's neo-literate population at a US$0.75 per person per year cost (Table 6).[11]

As mentioned earlier (Table 1), almost 50% of Indians have access to TV. Since neo-literates would tend to be in the lower income groups, it is a fair assumption that at least 35% of them have access to TV. In 1993, TV in Gujarat would have given at least 3.5 million neo-literates reading practice through SLS. The annual cost of subtitling one 30-minute programme of songs per week is approximately US$23 000. With these figures, the cost of giving 35% of the neo-literates in Gujarat half an hour of reading practice comes to US$0.0066 per person per year with SLS on TV (Table 6). This compares rather favourably with US$0.75 per person per year for covering a mere 2.4% of the neo-literate population through PL centres. Besides, access to TV is rapidly increasing, it is a medium that has lifelong presence, and one can easily increase the frequency of SLSed song or even other programmes. Following a similar approach, cost comparisons of PL and SLS are given for selected states (Table 6).

The economics of SLS becomes more attractive in states with larger populations. In the Hindi belt (Bihar, MP, Rajasthan, UP and HP), which accounts for almost half the country's illiterates and neo-literates, SLS of one weekly episode of *Chitrahaar* would give weekly reading practice to over 42 million neo-literates (35%), at a lowly US$0.0007/person/annum (three paise! (Indian coin)). In reality, many more people all over India (outside the Hindi belt) would also benefit. The maximum coverage of PL programmes in any given state is less than 5% of the estimated neo-literate population.

This is not to imply that the PL or CE programmes should stop. Non-formal classes, support for libraries, wall-papers, magazines and other reading material designed for neo-literates must not only continue but need to be strengthened.

However, relegating the mass media to a motivational role only is not recognizing the power of learning through subliminal processes. The same process on television that makes one buy a bar of soap can also be tapped to unleash household reading. Thus, organizations like the NLM could, for instance, launch a plethora of their own subtitled song programmes, nationally and in every state/language. There is no reason why these programmes could not also be commercially profitable. Every channel already shows lots of song-programme clones (without subtitles) at a substantial profit. The NLM could also tie up with newspapers to bring out editions specially designed for neo-literates, and sold at an affordable cost. Clearly, the NLM needs to create an environment in which literacy transactions can occur habitually and automatically. For this, the mass media are not good, they are inevitable.

Conclusion

The power of SLS lies in the fact that is it covertly educational and 'adds' to the entertainment value. While enhancing the entertainment value of popular song programmes, SLS simultaneously makes reading practice an incidental, automatic and sub-conscious process. The popularity of SLS has been established through the overwhelmingly positive viewer feedback from viewers in Gujarat. Now the important question is whether the weekly subtitled telecasts of *Chitrageet* also lead to mass-scale improvement in reading skills. Further, what secondary and indirect effects are there in terms of generating an interest and environment for reading? Patelbhai Jeetendra's comments (from Nanikadhi village in Mehsana District) provide a window on what may be happening:

> The subtitles that you have added to *Chitrageet* will help the cause of literacy. I say so after noticing the behavioural change in my child. My son Parth is studying in grade I. Whenever *Chitrageet* is on, he tries to read the writing at the bottom. Because of this his interest in reading has also increased. It is my belief that many under-privileged children will also benefit. Now TV is in almost every household. In low-income neighbourhoods, even if there are a few TVs, people go there and watch this programme. They will learn a lot because they already like to sing Gujarati songs. They just don't know how the words are written.

The most effective context for the implementation of SLS, especially for neo-literates, is songs: film and folk songs, bhajans, ghazals and various other forms. This is not to suggest that it is not also effective in dialogue. However, songs provide some advantages that ordinary dialogue does not. There is widespread interest in knowing song lyrics. In songs one can anticipate the lyrics: repetition is inherent. Both these factors make it easier for the neo-literate viewer to follow along with the subtitles. Songs also come in a variety of speeds, presenting reading challenges for the whole range of literacy levels.

The target viewership of SLS on television is broad. It includes school-going children who can get out-of-school reinforcement, school drop-outs who can relearn eroded skills and the millions of adults who enthusiasticially picked up basic skills under the literacy campaigns but had few opportunities or perhaps

lacked personal motivation to engage in regular practice. A major advantage of SLS is that it invites reading without dependence on personal motivation for 'literacy' practice. If SLS is dependent on anything, it is an interest in film songs and here the passion of one billion Indians is unquestionable. SLS can infuse the idiot box and the lives of millions of neo-literates with automatic reading practice. Now it is up to media and education policy makers in different states and at the centre, to release this simple and low-cost butterfly. The transformational butterfly-effect for literacy is not the writing on the wall, it is a subtitle on television.

Notes

1. The article is based on a paper presented at the Third Asia Regional Literacy Forum, Beijing, China, 18–22 October 1999. The authors have benefited greatly from the anonymous reviewers' comments.

2. A semi or neo-literate person is defined here as someone who is at risk of literacy skill erosion and/or possible relapse into illiteracy.

3. Functional literacy is used simply to mean, the ability to independently draw information from the most common sources (e.g. newspapers, bus destination signs), articulate thoughts in writing (e.g. letters) and do basic arithmetic on paper to the extent necessary in everyday life.

4. http://www.infoindia.net/nlm/lit.htm, checked on 27 January 2000.

5. Funding for this experiment was provided by the Research & Publications Unit of the Indian Institute of Management, Ahmedabad.

6. *Chitrahaar* is the first film-song based television programme of its kind initiated by *Doordarshan*. Still very popular, it is a half-hour programme that is currently broadcast two times a week.

7. This experiment explores the acquisition of Hindi skills through Hindi film songs/subtitles, in Gujarati children studying in Gujarati medium schools. Hindi songs were chosen, not Gujarati, due to practical considerations justifiable within the experimental context. Hindi songs with subtitles were readily available due to earlier efforts with subtitling directed at nationally telecast Hindi film song programmes. Hindi and Gujarati scripts (and languages) are quite similar yet different enough to ensure a sizeable sample of neo-literates in Hindi among those studying in Gujarati medium schools. This, in turn, facilitated the 'measurement' of improvement in reading skill. The choice of language also enabled an understanding of the impact of subtitled Hindi film songs on non-Hindi speaking states, at least those with not too dissimilar languages. Hindi is not only the language of the largest and most popular film song industry, the Hindi belt is home to nearly half the country's non- and neo-literate population. This is not to say, however, that a more intuitive first experiment would not have been to show Gujarati songs/subtitles to Gujarati speakers. In fact, such an experiment is now underway. Both approaches can offer different but equally relevant insights for the Indian context.

8. State Television for Gujarat.

9. At these institutions several people have shown tremendous initiative and encouragement. At DDK, one acknowledges Mr Satish Saxena, Director, and Nirali Joshi, Isu Desai and Urvish Dave. At DECU, Mr B. S. Bhatia, Director, and S. R. Joshi have contributed greatly.

10. Results from this experiment with adults are still to be analysed and will be reported in a separate publication. Hence, it cannot be argued convincingly at this stage that SLS will also contribute to the skill enhancement of adults.

11. US$=Indian Rupees 48/- at present.

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