

Same Language Subtitling on TV: Impact on Basic Reading Development among Children and Adults

Brij Kothari, Tathagata Bandyopadhyay, and Debanjan Bhattacharjee
Indian Institute of Management, Ahmedabad



Primary Contact

Brij Kothari, IIM Ahmedabad, Ravi J. Matthai Centre for Educational Innovation
brij@iimahd.ernet.in Website: www.PlanetRead.org

Tathagata Bandyopadhyay, IIM Ahmedabad, Production & Quantitative Methods
tathagata@iimahd.ernet.in

Debanjan Bhattacharjee, IIM Ahmedabad, Research Associate

Address: c/o K.T. Pauly, Wing 7, IIM Ahmedabad-380015, Gujarat, India
Fax: +91-26306896; Mobile: +91-9824071245
Secretary: Mr. K.T. Pauly, +91-79-26324870

Awards, Recognition, and Support for Same Language Subtitling (SLS)



- *Tech Laureate, Tech Museum of Innovation, 2003*, San Jose, California.
- *Winner, Development Marketplace 200*, World Bank, Washington, D.C.
- *Best Social Innovation in Education, Institute for Social Inventions 2000*, London, U.K.
- Stanford, Digital Vision Fellowship, 2003-4, Palo Alto, California.
- Ashoka Fellowship, 2004.
- Google Foundation Support, 2005.

Summary

Same Language Subtitling (SLS) was implemented on two nationally telecast Hindi film song programmes, Chitrahaar and Rangoli, between 2002 to present. SLS was designed to enable automatic and subconscious reading practice among over 100 million early-literates, for one hour/week. This study revisited more than 13,000 illiterates and semi-literates randomly drawn from five states, to get a snap-shot of their reading skills at the baseline before the SLS intervention (2002), a year later (2003), and more recently (2007).

The data in all three rounds were collected independently by Nielsen's ORG-Centre for Social Research, by administering the same literacy measurement tools to the same individuals. The study is further strengthened by the involvement of an independent scholar of statistics, in the analysis. It responds primarily to one key question: Does SLS lead to reading skill improvement?

Appendix A includes one of the exercises that was administered to assess Syllable Decoding Score (SDS), or the number of syllables read correctly. Improvement was measured by administering the same exercise in 2002 and then again in 2007. The present analysis is based on this exercise only.¹

Indicator of improvement	No SLS	SLS
<i>Illiterate Adults at Baseline</i>		
Syllable Decoding Score (SDS): Minimum Average Improvement (MAI)	T: 2.7 N=838 M: 4.8 N=221 F: 1.9 N=617	T: 6.2 N=443 M: 8.3 N=105 F: 5.6 N=338
% who remain illiterate, after 5 years	T: 83% N=838 M: 68% N=221 F: 87% N=617	T: 68% N=443 M: 53% N=105 F: 74% N=338
% who become functional readers (SDS=maximum possible)	T: 3% N=838 M: 8% N=221 F: 2% N=617	T: 12% N=443 M: 15% N=105 F: 17% N=338
<i>Early Literate Adults at Baseline</i>		
SDS, MAI	T: -7.2 (loss) N=396 M: -5.7 (loss) N=185 F: -8.5 (loss) N=211	T: 0 (no gain) N=426 M: 1.5 (gain) N=193 F: -1.9 (loss reduction)N=233
% Experiencing skill loss	T: 54% N=396 M: 49% N=185 F: 58% N=211	T: 27% N=426 M: 20% N=193 F: 32% N=233
% Experiencing skill gain (Pattern similar for all age groups of adults; very pronounced in 15-24 group)	T: 27% N=396 M: 33% N=185 F: 21% N=211	T: 36% N=426 M: 35% N=193 F: 37% N=233

Note: Only statistically significant findings at $p < 0.05$ are presented, among TV owners.

¹ Confirmation of similar findings was obtained with other reading exercises. Analyses based on other reading and writing exercises are in the writing phase.

Summary continued...

Indicator of improvement	No SLS	SLS
<i>Children in School at Baseline: Illiterate</i>		
Syllable Decoding Score (SDS): Minimum Average Improvement (MAI)	T: 17 (school effect) N=204 M: 18 N=102 F: 16(15) N=102	T: 29 (school+SLS effect) N=222 M: 30(28) N=106 F: 29 N=116
% who remain illiterate, after 5 years	T: 26% N=204 M: 26% N=102 F: 26% N=102	T: 12% N=222 M: 11% N=106 F: 12% N=116
% who become functional readers (SDS=maximum possible)	T: 24% N=204 M: 29% N=102 F: 19% N=102	T: 56% N=222 M: 58% N=106 F: 54% N=116
<i>Children in School at Baseline: Early-Literate</i>		
SDS, MAI	T: -3.3 (loss) N=398 M: -3.2 (loss) N=215 F: -3.4 (loss) N=183	T: +3.1 (gain) N=643 M: +3.4 (gain) N=329 F: +2.9 (gain) N=314
% Experiencing skill loss	T: 42% N=398 M: 42% N=215 F: 43% N=183	T: 21% N=643 M: 21% N=329 F: 20% N=314
% Experiencing skill gain Note: Girls gain more than boys.	T: 39% N=398 M: 40% N=215 F: 38% N=183	T: 46% N=643 M: 45% N=329 F: 48% N=314

Indicator of improvement	No SLS	SLS
<i>Functionally Literate People (SDS>34; max=40)</i>		
Syllable Decoding Score (SDS): Minimum Average Improvement (MAI)	T: -10 (loss)	T: -3.5 (loss) SLS slows down skill erosion.
% Experiencing skill loss	T: 40% M: 38% F: 37%	T: 21% M: 19% F: 23%
% Experiencing skill gain Note: Girls show more gain	T: 21% M: 23% F: 19%	T: 21% M: 19% F: 23%
% Reading newspaper at least once a week	T: 50% (2002) T: 61% (2007)	T: 81% (2007)
<i>Perceiving Self to be Literate at Baseline</i>		
% Reading newspaper at least once a week	T: 34% (2002) T: 42% (2007)	T: 70% (2007)
<i>Perceiving Self to be Illiterate at Baseline</i>		
% Reading newspaper at least once a week	T: 1% (2002) T: 8% (2007)	T: 23% (2007)

Indicator	No SLS	SLS
Regular viewers of Rangoli (%)	27%	40%
All viewers, including regular (%)	49%	58%
Non viewers (%)	51%	42%

Note: The pattern for Rangoli repeats for Chitrahaar.

Same Language Subtitling on TV: Impact on Basic Reading Development among Children and Adults²

Same Language Subtitling (SLS) is the idea of subtitling song-based content on TV in the “same” language as the audio. It is claimed that SLS creates a context in which reading skills are practiced, automatically, incidental, and subconsciously by millions of children and adults. In the process, SLS leads to reading skill improvement. Does it?

Two earlier studies have attempted to respond to this question:

- i) An experimental study was conducted in 1998 with low-income primary school children, where the exposure to SLS was strictly controlled. The subjects who were exposed to regular SLS viewing – three sessions a week for 30 minutes/session, over three months – showed greater average improvement in reading (Kothari et al., 2002).



- ii) The first ever implementation of SLS on TV, expressly for literacy, was in 1999, in Gujarat. The Gujarat pilot study was conducted in a natural setting. SLS simply appeared one fine day on TV, on a weekly 30-minute program of Gujarati film songs. Exposure to SLS could not be controlled nor could the out-of-school sample of children and adults be informed explicitly about the purpose of the study or whether it had anything to do with SLS. Those exposed to SLS, again showed greater improvement in reading skills, re-measured after six months of SLS on TV (Kothari et al., 2004).

An important weakness of both the above studies was that the data collection and analyses were conducted by the SLS group. Having conceptualized SLS on TV for mass literacy, one could expect the SLS group to be prone to evidence in support of SLS. Therefore, a third larger study was conducted alongside the implementation of SLS on two nationally telecast TV programs of Hindi film songs, Chirahaar and Rangoli on Doordarshan.

² The authors gratefully acknowledge Google Foundation’s support for Round 3 of this study and supporting the implementation of SLS on 10 TV programs in as many languages, during Dec. 2005 to May 2007. The baseline and Round 2 studies were supported by Development, Marketplace, World Bank.

Impact of SLS on Chitrahaar and Rangoli

Methodology

The overall design of the present study was essentially the same as the two previous studies, mentioned above. A baseline measurement of literacy skills was conducted before SLS began and the same individuals were revisited and administered the exact same test, after a certain period of exposure to SLS. The test to measure reading skills was an improved and more extensive version, designed to capture small improvements in decoding ability, writing ability, self-perception of reading and writing ability, and phonemic awareness. The analysis compared the groups, with and without exposure to SLS, on several literacy skill measures while controlling for other variables.

There are several important differences between this third study the previous two:

- a) Data were collected and the data file created by a reputed and independent agency, Nielsen's ORG-Centre for Social Research (Nielsen's ORG_CSR).
- b) The sample size was large. It was drawn randomly by the independent agency from five states: four Hindi speaking (Rajasthan, Uttar Pradesh, Madhya Pradesh, and Bihar) and Gujarat.
- c) The impact of SLS was assessed after exposure over a period of nearly five years.
- d) The analysis was conducted in partnership with an independent scholar.³

The baseline sample included only "illiterate" and "semi-literate" individuals. The surveyors judged them to be so, based on their ability to read an extremely simple paragraph of Hindi text, at Grade 2 level. Those who could read the simple text were not included in the study. Subsequent to this filter, the literacy skills of the selected sample of illiterate and semi-literate adults and children, were measured in three rounds, as follows:

	Sample size	Date
Round 1 (baseline)	13,074	Sept. 2002
Round 2	11,211 (86%)	Sept. 2003
Round 3	8,982 (69%)	May 2007

Nielsen's ORG-CSR attempted to reach the original baseline sample in Rounds 2 and 3 and managed to reach 86% and 69% respectively. Roughly 43% of the sample was male and 57% female, in all three rounds.

Exposure to SLS

Barring a few small gaps, SLS was implemented on two programs of Hindi film songs, telecast nationally:

Chitrahaar, 30 minutes/week: September 2002 to December 2003, for 16 months.

³ Prof. Tathagata Bandyopadhyay collaborated on the analysis. He is a professor of statistics at the Indian Institute of Management, Ahmedabad,. He had not participated in the earlier studies or in the conceptualization and development of SLS over the preceding decade. Besides enriching the analysis itself, he infuses a strong measure of independence.

Rangoli, 60 minutes/week: Ongoing since August 2003, nearly 4 years.

Results

TV owners who are exposed to SLS regularly (“High SLS” group or regular viewers of Rangoli) were compared to TV owners who are not exposed to SLS (“No SLS” group or those who do not or rarely watch Rangoli). Rangoli viewership was reported on a 5-point scale from “Very regular” to “Do not watch” in all three rounds.

The impact on school-going children at baseline was analyzed separately from the impact on non-school-going adults. There were very few out-of-school children below age 15 in our baseline sample.

Syllable Decoding Score

The first reading exercise had every subject decode (or sound) 40 unique syllables in text (Appendix A). The total number of syllables decoded correctly represented the Syllable Decoding Score (SDS).

For this exercise, the impact of SLS on literacy was judged in several ways:

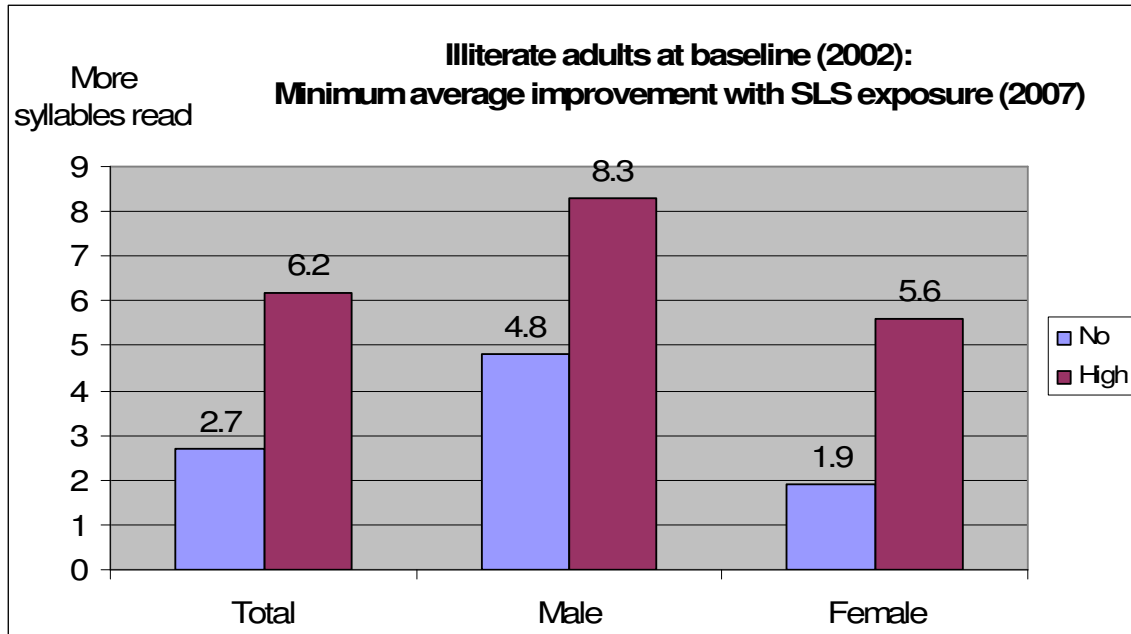
- i) Minimum average improvement in SDS from Round 1 to Round 3.⁴
- ii) Among illiterates (at baseline), that is SDS = 0, percentage that “maxed-out” by scoring 40 on SDS in Round 3.
- iii) Among illiterates (at baseline), percentage that remained illiterate or SDS=0 in Round 3.
- iv) Among those who decoded one or more syllables at baseline (SDS > 0), the percentage who improved in Round 3 (SDS3 - SDS1 > 0) and the percentage who experienced skill erosion by Round 3 (SDS3 - SDS1 < 0). We will call this group “early-literate,” implying that they had already picked up some early decoding skills at baseline, when the SLS intervention started.
- v) We ran a multiple linear regression to find the effect of different covariates on increase in SDS between the baseline and Round 3.

SLS impact on adults

Illiterate adults (at baseline)

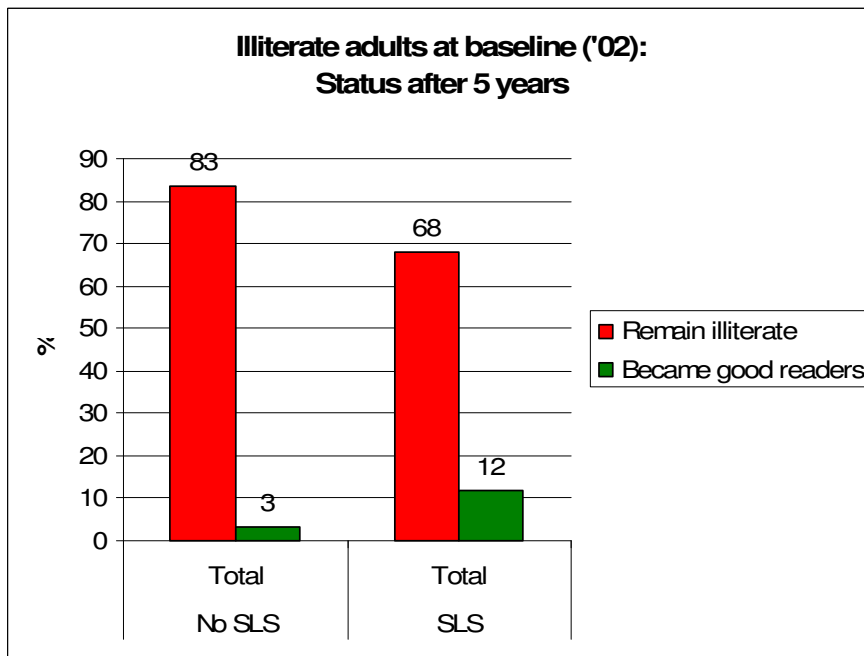
The minimum average improvement on SDS (see footnote 2) for the High SLS group was 6.2 syllables, as compared to 2.7 for the No SLS group (ANOVA, $p < 0.05$). The impact of SLS on decoding ability held out for both male and female adults.

⁴ This is reflective of whether SLS impacts decoding ability but does not fully capture the extent of improvement. That is because many subjects “maxed-out” on the exercise in round 3, reading all syllables. Thus, the average improvement based on this exercise is actually an underestimation or a “minimum” average improvement.

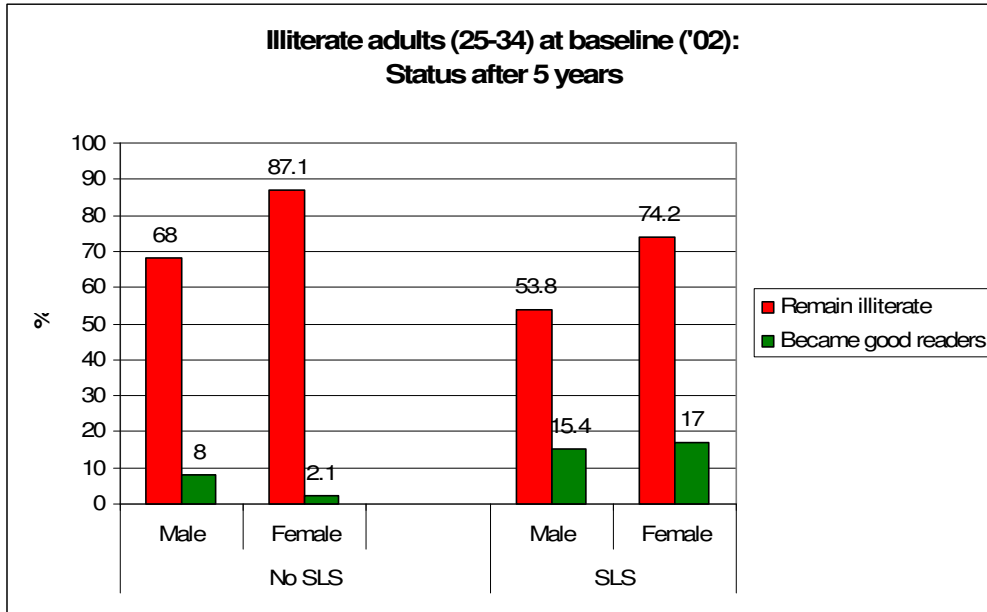


This pattern of improvement with SLS was observed for adults of all age groups, 15-24, 25-34 and 35+.

The percentage of illiterate adults who remain illiterate, goes down from 83% (No SLS group) to 68% (SLS group). Without SLS, 3% still became good readers (max out on SDS) but with SLS, this increased to 12%. As compared to 17% illiterates being on the path to improvement, SLS put 32% on the path to improvement.

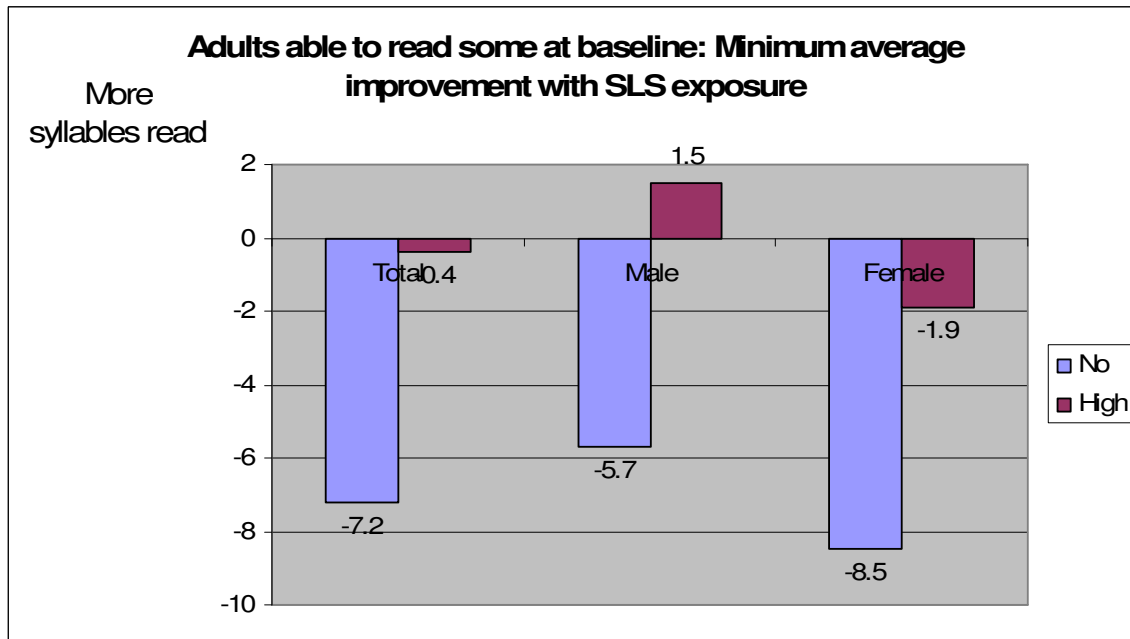


A similar pattern of improvement from SLS was found for both, female and male adults and adults in different age groups. Especially in the 25-34 age group, the gender gap without SLS is bridged by SLS, with respect to the percentage who become good readers.

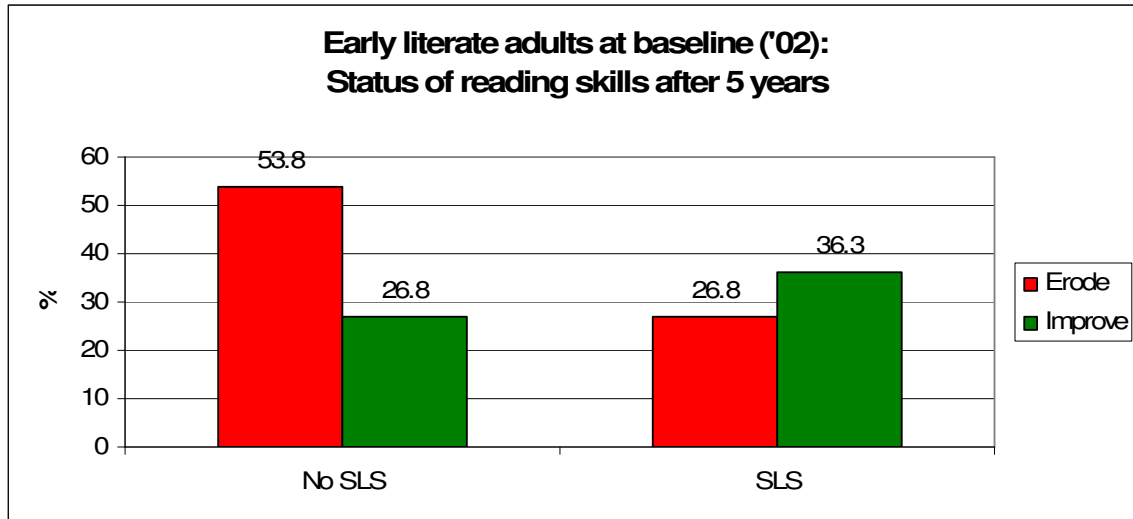


Early-literate adults (at baseline)

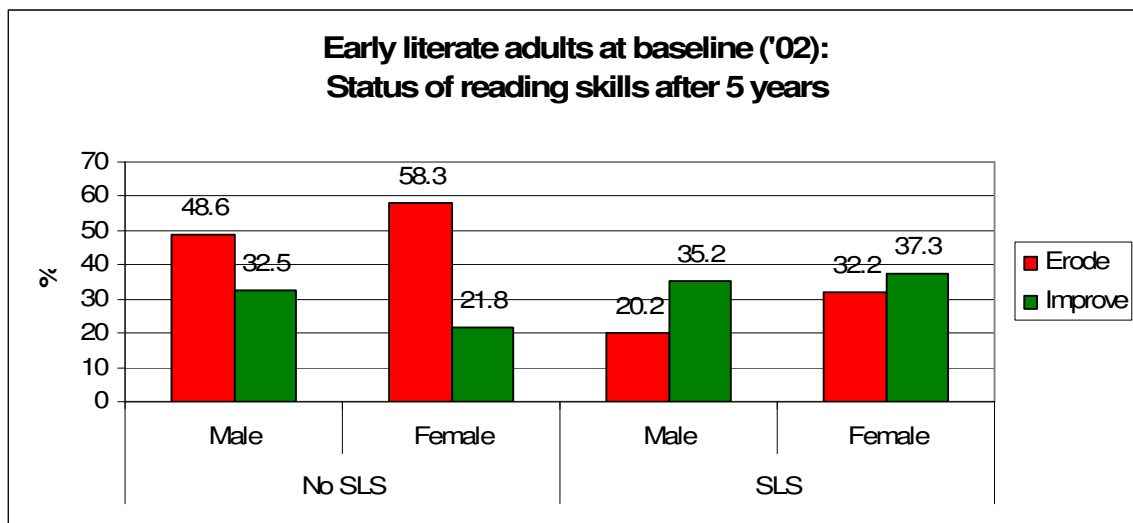
SLS reduces literacy skill erosion among early-literate adults. Early-literate adults experienced substantial skill erosion (an average of 7 or more syllables). However, SLS reduced skill erosion among females from an average loss of nearly 9 syllables (No SLS) to a loss of 2 syllables (High SLS). For males, SLS reversed the trend from loss (-5.7) to gain (+1.5).



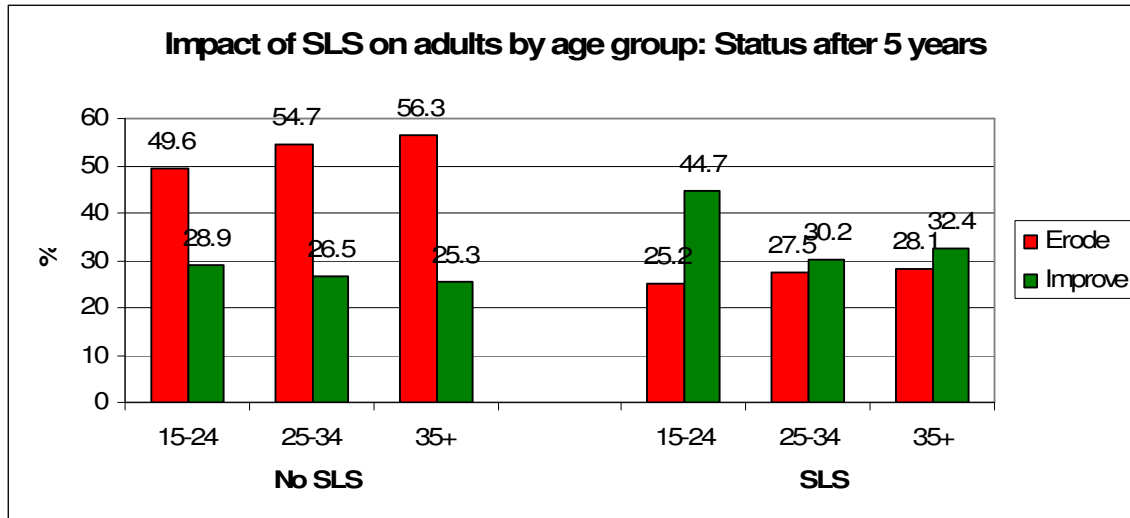
The erosion of skills among early-literates can also be seen another way. Without SLS, almost 54% early-literates experienced skill erosion between baseline and nearly 5 years later. In contrast, only 27% experienced skill erosion in the SLS group. Besides, a greater percentage of early-literates remained on the path to improvement with SLS exposure.



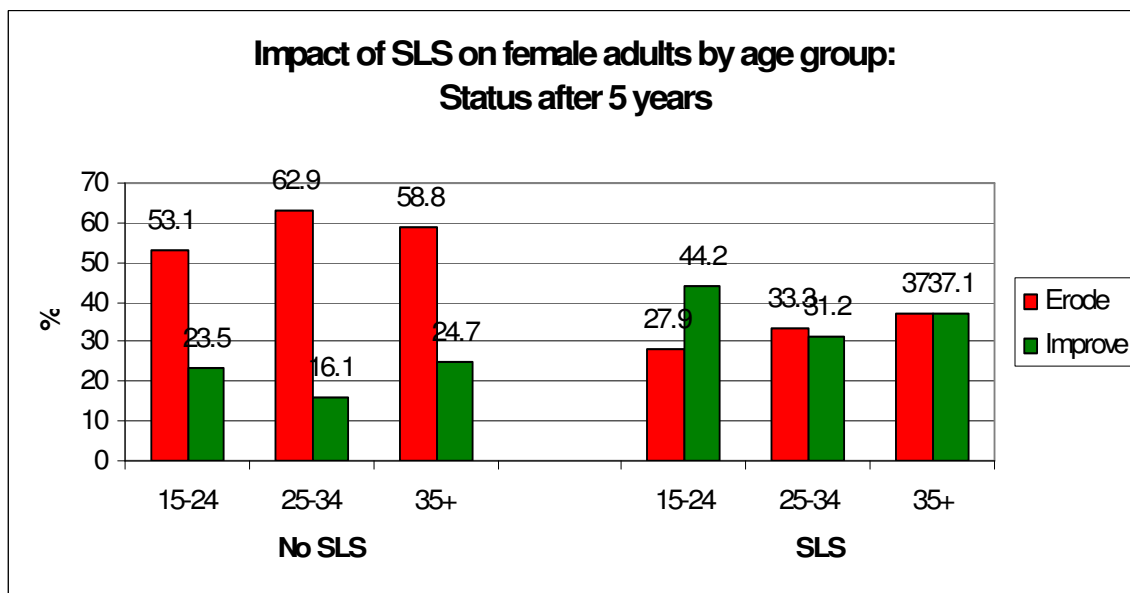
In terms of the percentage evincing improvement, the gender difference observed without SLS, actually disappears. In fact a greater percentage of female early-literates show improvement with SLS (37.3%) as compared to males (35.3%) and this was reversed without SLS (32.5% for males and only 21% for females).



Among early-literate adults, the group that benefited the most from SLS was the 15-24 age group.



Within the 15-24 group, females benefited the most with the percentage improving jumping from 23.5% (No SLS) to 44.2% (SLS).



On the one hand, SLS reduces the percentage of early-literates experiencing erosion and increases the percentage of early-literates experiencing gain. SLS on Rangoli benefited adult female early-literates more than males.

Adults: Impact of Rangoli after controlling for other variables

We ran a multiple linear regression to find the effect of different covariates on increase in SDS, between the baseline and Round 3. The model below explains 39% variations in the data. Importantly, all the covariate effects are highly statistically significant and the direction of the effects (as evident from the sign of regression coefficients), are found to corroborate our intuition.

In other words, SLS on Rangoli contributes to reading skill improvement, even after controlling for other contributing factors, such as:

- i) The number of syllables read correctly at baseline: The higher the number of syllables read initially, the lower the improvement due to there being less room for improvement on this exercise.
- ii) Grade completed: The higher the education among adults, the higher was their improvement in SDS.
- iii) Age: The younger the adult, the greater was his/her improvement in SDS.
- iv) Self-perception of a functional reading ability: Adults with a better self-perception of bus board reading ability at the beginning of the study, actually improved more on SDS. While this is not surprising, it is a confirmation that self-perception of one's reading ability on a functional level, is a good reflection of one's reading ability and potential for improvement.
- v) Literacy category: The adult judged by the surveyor to be semi-literate, based on the reading of a simple paragraph, showed greater improvement than an adult judged to be illiterate.
- vi) Parental literacy: We found the father's literacy and mother's literacy to be highly correlated, hence, we added both to get parental literacy and found it to be a statistically significant contributor to skill improvement.
- vii) Awareness of subtitles on TV: Adults who were aware of subtitles on TV, not necessarily of the SLS variety, tended to improve more.
- viii) Gender: Overall, males improved more than females.

Adults out of school: Regression Coefficients
 Dependent Variable: Increase in SDS from baseline to Round 3

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	52.815	1.972		26.785	.000
SDS at baseline (score at starting point)	-.853	.019	-.929	-45.032	.000
Grade completed, Round 3	.639	.102	.082	6.265	.000
Age	-.094	.020	-.058	-4.656	.000
Can read bus board, self-perception	2.221	.266	.189	8.357	.000
Rangoli (Sunday)	.760	.159	.074	4.766	.000
Illiterate or semi-literate, judged by surveyor at baseline	9.935	.636	-.317	15.612	.000
Parental Literacy	1.066	.173	-.080	6.149	.000
Aware of subtitles on TV programs	5.591	.480	.183	11.648	.000
Sex (Male=1; Female=2)	-1.572	.384	-.051	-4.089	.000

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.624(a)	.390	.388	11.35511

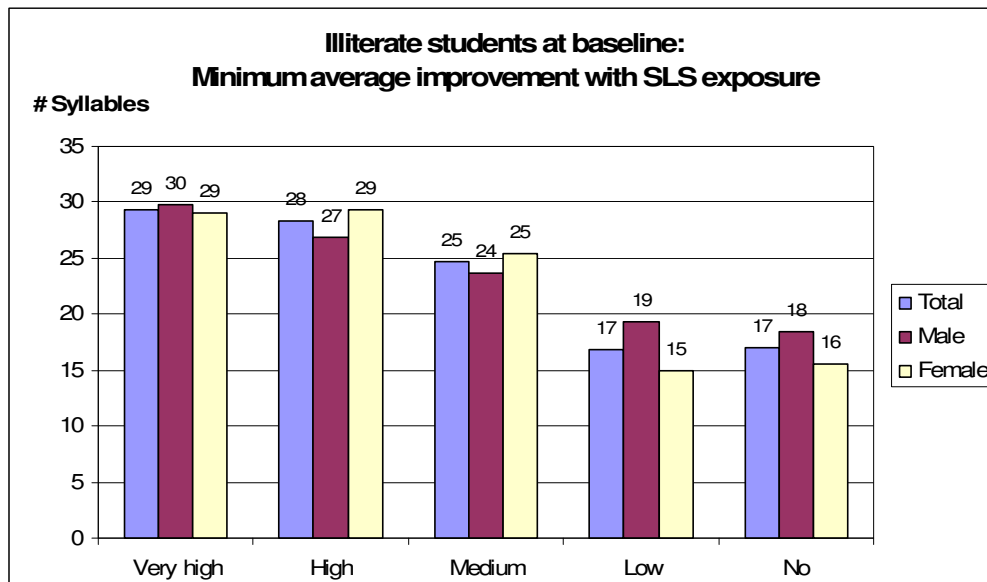
ANOVA(b)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	345234.682	9	38359.409	297.502	.000(a)
Residual	540896.812	4195	128.938		
Total	886131.495	4204			

SLS impact on children in school

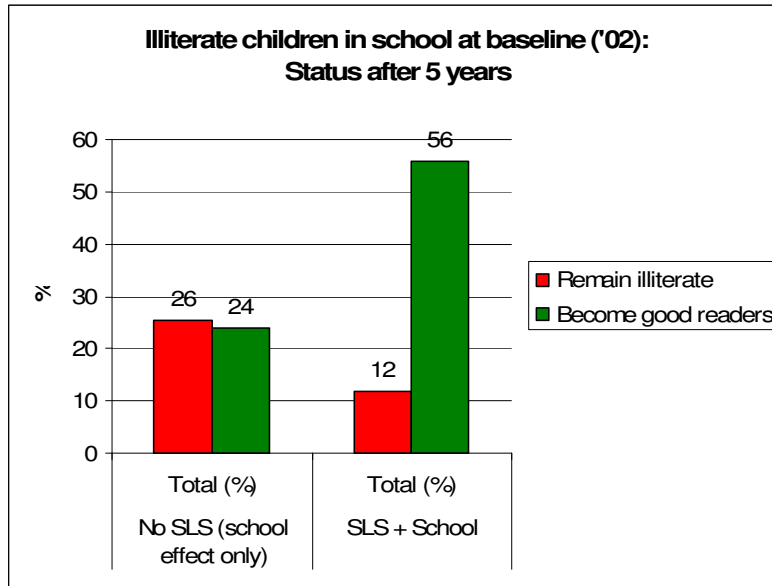
Illiterate children in school (at baseline)

Illiterate children in school are those who scored zero on SDS in the baseline. Mostly this includes children who have just started school and who cannot demonstrably read a single syllable from the Hindi syllabary. The group also includes children who, for whatever reason, did not pick up any decoding ability, despite being in school for some time. There is, in this group, as one would expect, a schooling effect plus an SLS effect. An average improvement of 17 syllables can be attributed to schooling.⁵ However, the average improvement increased with increasing exposure to SLS for all in-school children. This pattern was observed for male and female children. Very regular viewing of SLS programs added, on average, an additional 12 syllables to SDS or an additional 70% improvement on the decoding test. This is an underestimation due to the max-out effect in the exercise.

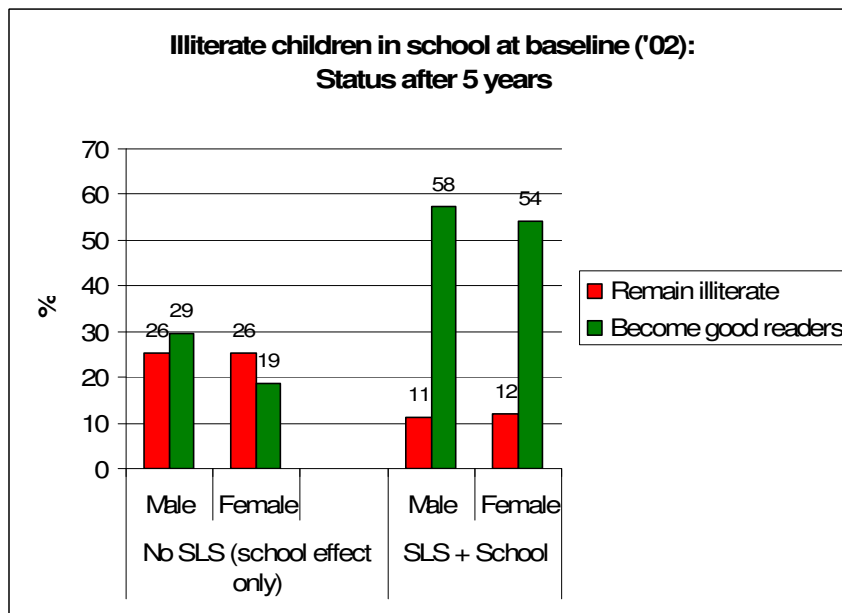


⁵ For illiterate adults, the average “background” improvement was less than 3 syllables.

The net that SLS casts to reversing loss and encourage gain, can be seen in the following. Without SLS, shockingly, 26% school children remain illiterate even after several years in school. With SLS, this drops to 12% school children remaining illiterate, thus, preventing 14% school children from joining the ranks of the adult illiterates. Moreover, SLS keeps 56% school children on the path to lifelong improvement, as compared to 24% without it.

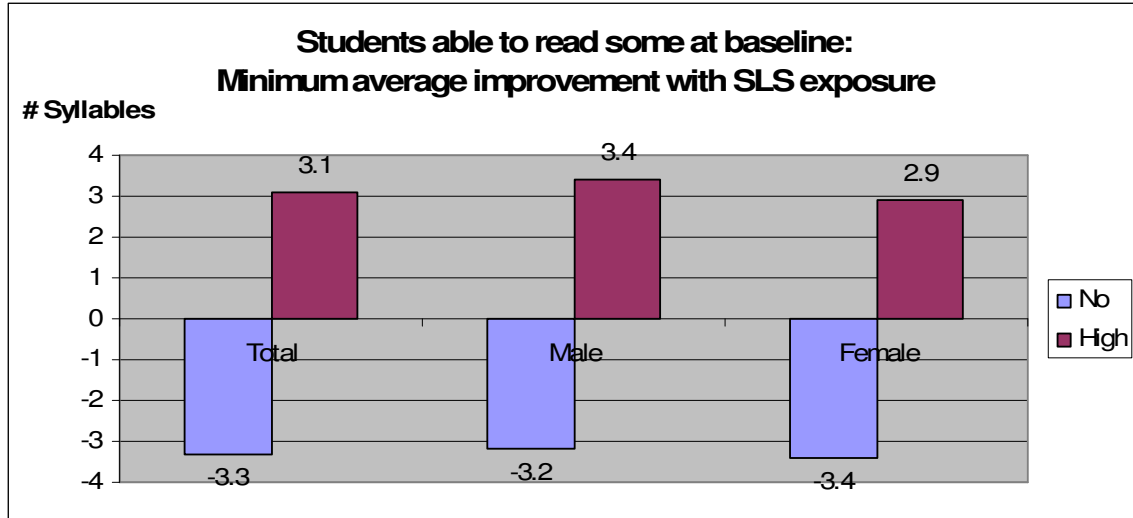


Schools introduce a gender gap in school children, without SLS. For instance, 29% boys become good readers (max out on SDS), compared to 19% girls. But when SLS enters the mix, the percentage of girls and boys who become good readers is comparable at 54% and 58%, respectively. SLS' impact on bridging the gender gap among adults is even more accented in school children. The disadvantage of girl students in reading achievement is compensated by introducing SLS.

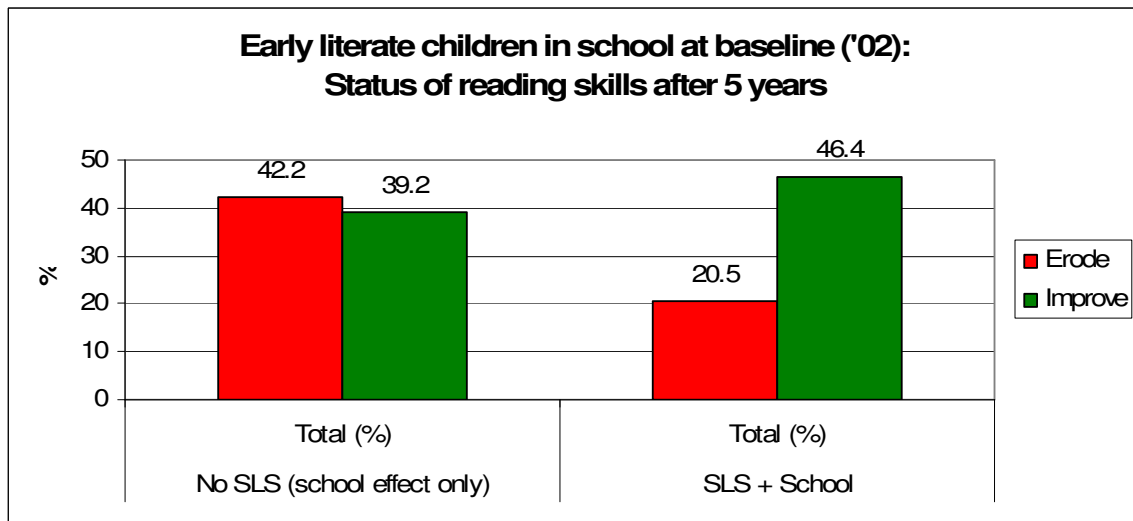


Early-literate school children (at baseline)

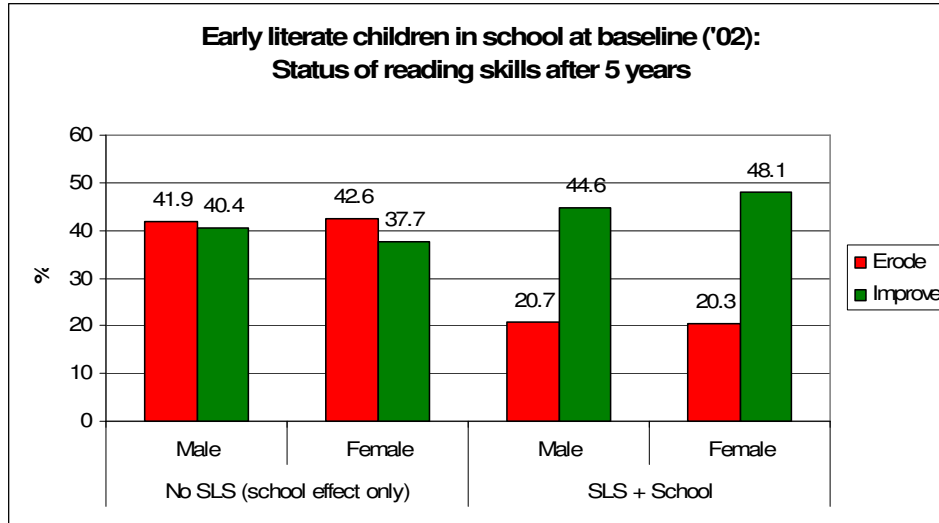
Without SLS, surprisingly, even those who were in school when SLS began and went on to complete Grade 5 at least, showed signs of skill erosion. SLS clearly reversed the slide, although the strength of the reversal cannot be judged from this analysis.



For that, it is helpful to look at the percentages of skill loss and gain, with and without SLS. Even after completing Grade 5, 42% early-literate children still experience skill loss with time. But SLS reduces this to 20.5% and, likewise, raises the percentage of people on the path to improvement, substantially, from 39% to 46%.



Even among early-literate school children, a greater proportion of girls seem to benefit more from SLS. While the percentage of boys improving moves from 40.4% to 44.6%, a gain of 4.2%, girls go from 37.7% to 48.1%, a gain of 10.4%.



Children in school: Impact of Rangoli after controlling for other variables

The linear regression model we ran for children in school explains 53% of the variations in improvement in SDS, for children in school. Rangoli's effect on improvement is significant, even after controlling for other statistically significant covariates:

- i) As with adults, the starting point mattered. The further the starting point on the exercise, the less room there was for improvement in the exercise.
- ii) Grade completed: The higher the education achieved by Round 3, the greater was the improvement in SDS.
- iii) However, the Grade completed at baseline, was negatively correlated with improvement. This would imply that the earlier SLS is introduced in the formal education process, the more a student can benefit from it.
- iv) Just like with adults, being aware of subtitling on TV programming is positively associated with improvement.
- v) An electricity connection was positively associated with improvement, among children. This effect was not found among adults.
- vi) A child judged to be semi-literate at the beginning, was more likely to show improvement later than another judged to be illiterate.
- vii) TV ownership was a positive factor in skill improvement.
- viii) Parental literacy contributed to skill improvement.
- ix) Age was negatively linked with improvement.

Children in School: Regression Coefficients
Dependent Variable: Increase in SDS from baseline to Round 3

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	56.007	2.803		19.983	.000
Rangoli (Sunday)	1.057	.225	.084	4.691	.000

SDS at baseline (score at starting point)	-.849	.020	-.740	-42.868	.000
Grade completed, Round 3	1.211	.163	.141	7.422	.000
Grade completed, Round 1	-1.204	.206	-.121	-5.834	.000
Aware of subtitles on TV programs	6.557	.713	.164	9.191	.000
Electricity connection	4.344	.909	.065	4.779	.000
Illiterate or semi-literate, judged by surveyor at baseline	5.806	.695	.145	8.359	.000
TV Owner? N=1; Y=2	2.179	.655	.052	3.325	.001
Parental Literacy	1.987	.215	.132	9.229	.000
Age	-.474	.181	-.055	-2.612	.009

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.730(a)	.533	.531	13.62500

ANOVA(b)

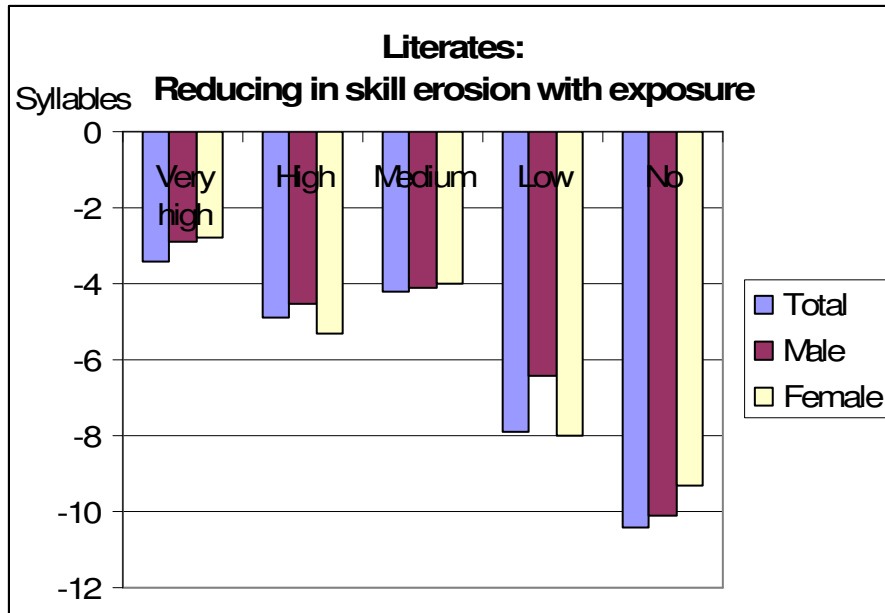
	Sum of Squares	df	Mean Square	F	Sig.
Regression	560407.373	10	56040.737	301.878	.000(a)
Residual	491204.844	2646	185.641		
Total	1051612.217	2656			

Clearly, if SLS is contributing in such a pronounced manner no matter how the data is looked at, one expects this to reflect in increased viewership of the TV program itself, i.e., Rangoli.

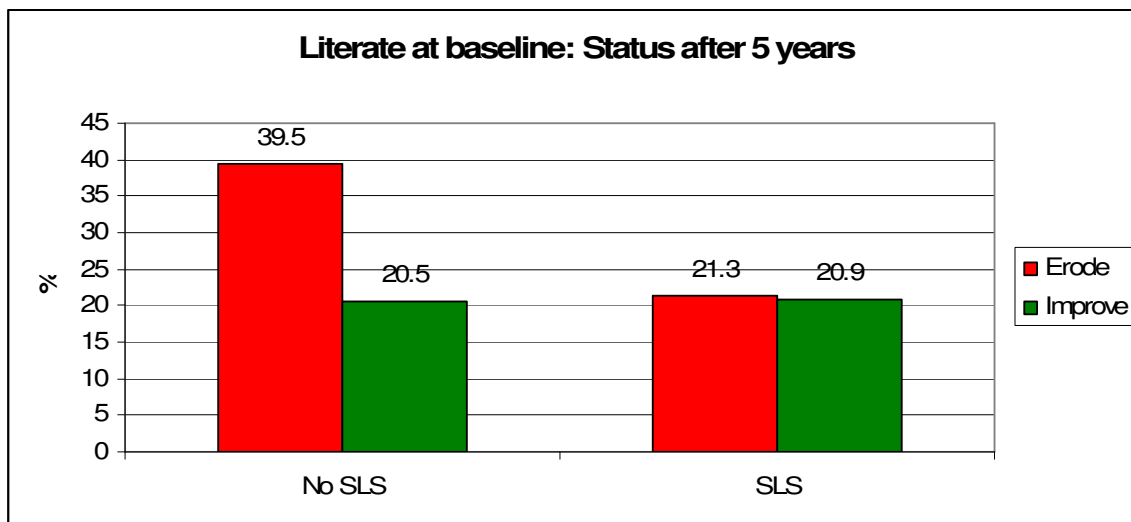
SLS impact on the functionally literate

It is well-known anecdotally that the literacy skills of many who claim to be “literate” are actually very low. Here we look at the impact of SLS on those who claim to be “literate” and who can actually substantiate this claim by reading at least 35 out of the 40 syllables in our first exercise (SDS>34). Do these functionally literate remain on the path to improvement?

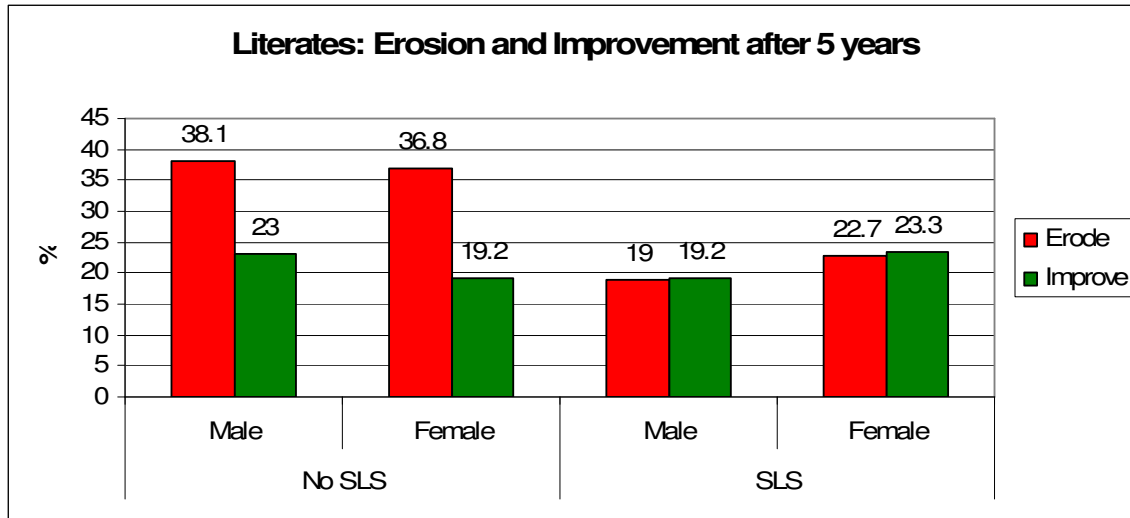
Without SLS, we found that the functionally literate read an average of 10.1 syllables less, after 5 years. With high exposure to SLS they lost an average of 3.4 syllables.



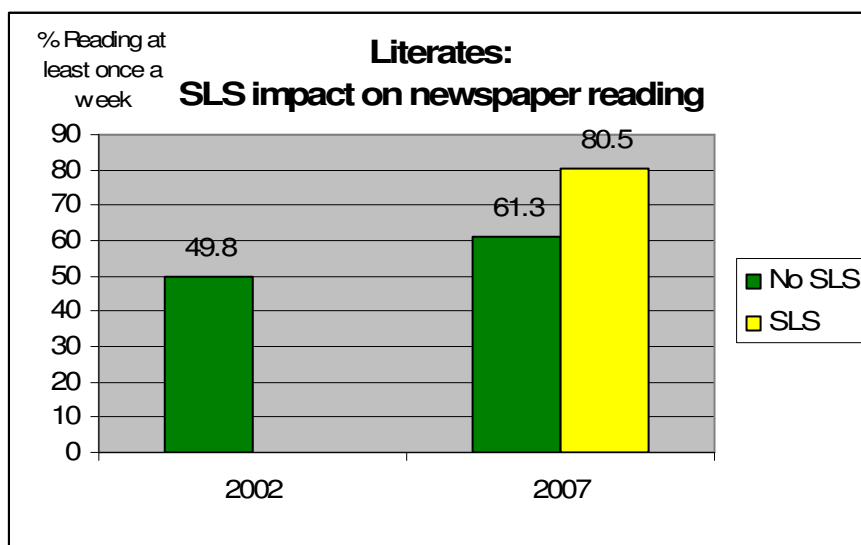
While 39.5% functionally literate people experienced skill erosion without SLS, only 21.3% experienced the same with SLS. Curiously, the percentage of functionally literate people who improved, remained more or less the same at nearly 21%, with or without SLS. Among the functionally literate, the primary contribution of SLS is to stem the erosion of decoding skills.



Among female functionally literate people, a higher proportion seems to gain from SLS on Rangoli.



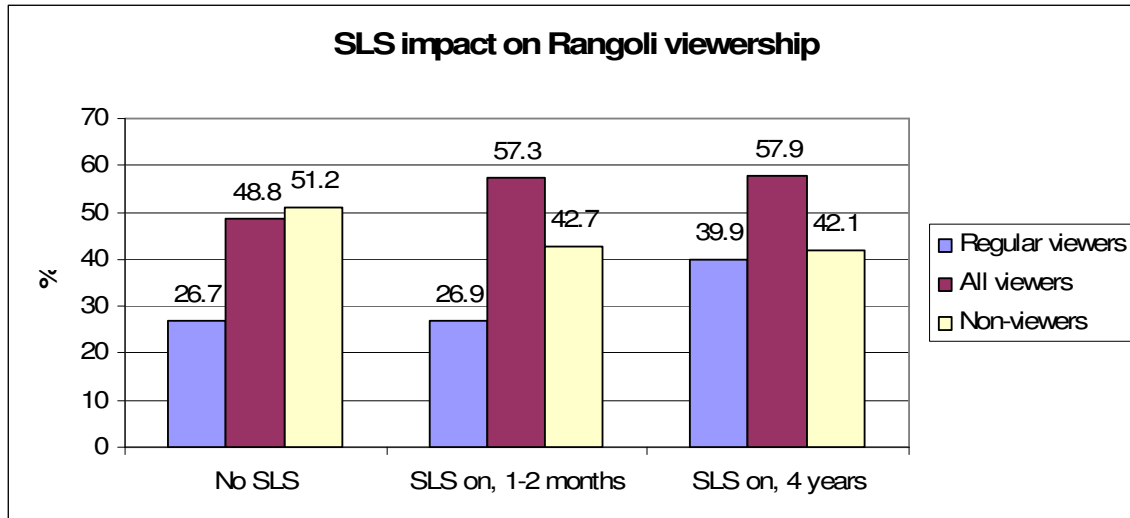
Over the last five years, 11.5% more functionally literate people are reading the newspaper, at least once a week. For those exposed to regular SLS viewing, 30.7% more functionally literate people became newspaper readers.



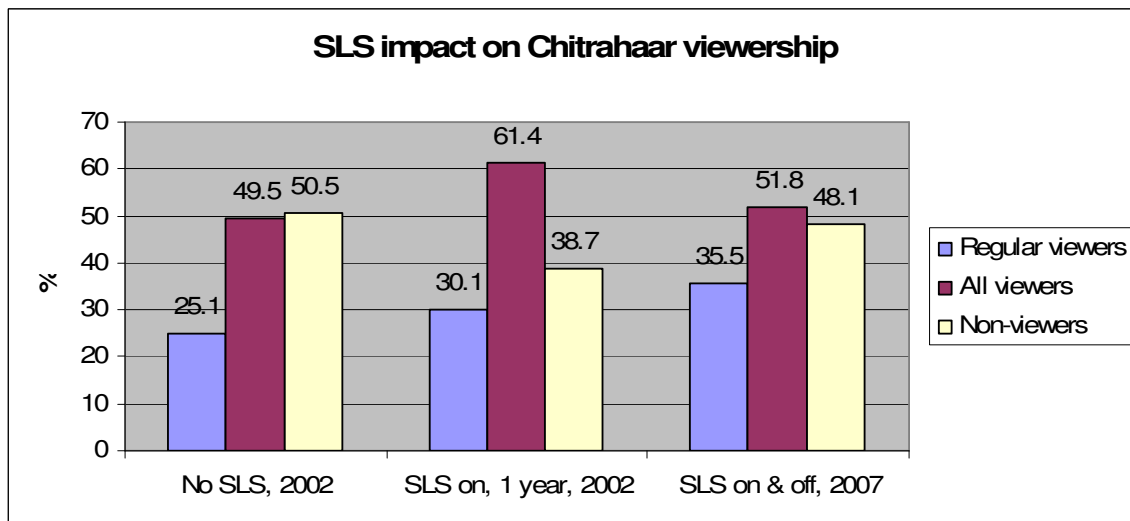
Thus, SLS is relevant as much for high literacy states as it is for low literacy states.

Viewership of Rangoli

Among all TV owners, SLS increased the proportion that sees Rangoli at least some times, from nearly 49% to 58%. It also increased regular viewers from 27% to 40%. Regular viewing among females jumped by 14.2% and the corresponding jump was 11.4% among males. Both males and females experienced a 9% jump in overall viewership.



A further confirmation of SLS adding to the popularity of song-based programming comes from viewership of Chitrahaar. Regular viewing and overall viewing went up while non-viewing was reduced, from the baseline to Round 2. However, the pattern reversed a bit in Round 3. Actually, this is what one would expect after knowing that SLS stopped on Chitrahaar soon after Round 2, but was reintroduced somewhat irregularly.

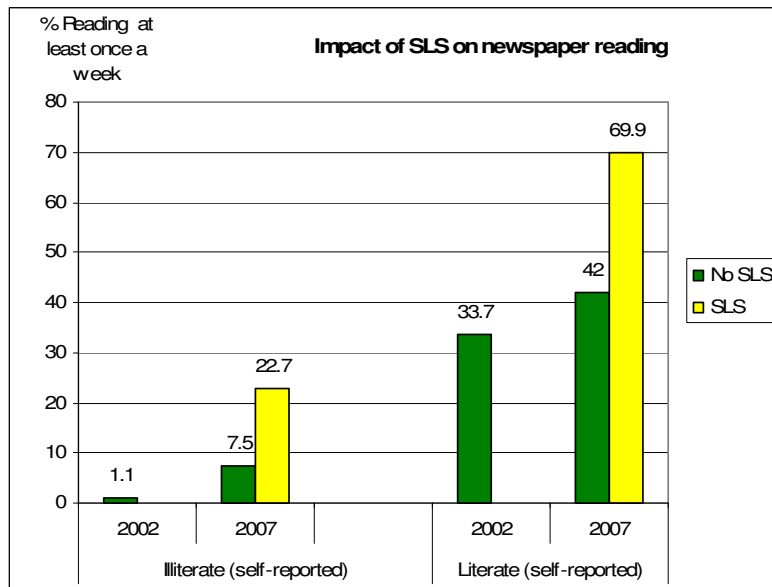


Newspaper reading and SLS

Does exposure to SLS and subsequent improvement in reading ability, lead to reading elsewhere, such as, reading newspapers?

Among those who self-reported as being “illiterate,” only 1.1% claimed to read newspapers at least once a week. Nearly 5 years later, this jumped to 7.5% without SLS and 22.7% with SLS. Among the self-reported “literate,” without SLS, the percentage increased from 34% to 42% but with SLS, it leaped to 69.9%. Reading improvement

from SLS translates into reading of newspapers and possibly other reading matter. Such an impact was observed, both, for males and females.



Conclusion

SLS works. These two words are backed by two earlier studies and conclusively supported by the present study. SLS contributes significantly to reading improvement among:

- school children and out-of-school adults who happened to be illiterate when the concept first aired on national TV in 2002;
- school children and adults who were “off the block” or who could read at least one or more syllables, prior to the SLS intervention;
- functionally literate people who would otherwise experience substantial skill loss.

SLS’ contribution to reading takes the form of strengthening decoding capacity, stanching skill loss, pushing a higher percentage to functional literacy levels, and increasing newspaper reading. In select groups, SLS contributed by reducing the gender gap in reading achievement, in all likelihood, an outcome of the specific TV program on which it was implemented and possibly the greater interest in song lyrics among girls.

From a broadcaster’s perspective, it is heartening to know that SLS attracted more viewers and increased the proportion of regular viewers.

The financial and operational challenge of keeping SLS alive on national TV for five years, until independent research could comment irrefutably on its worth for literacy, is now over. With the strong support for SLS as a catalyst for literacy skill improvement, a policy challenge has emerged, with the following questions:

- 1) Should SLS be implemented nationally on all song-based programming, in all states/languages?
- 2) How do we increase the frequency of viewing song-based content, with SLS?
- 3) What is the sustainable funding mechanism by which this could be achieved?
How do we move SLS from project mode to policy?

At stake is the possibility of keeping 500 million people on a lifelong path to literacy skill improvement, at very... very little cost.

References

Kothari, Brij, Avinash Pandey, and Amita Chudgar (2004). Reading Out of the “Idiot Box”: Same-Language Subtitling on Television in India. *Information Technologies and International Development*, vol. 2(1): 23-44.

Kothari, Brij, Joe Takeda, Ashok Joshi, and Avinash Pandey (2002). Same Language Subtitling: A Butterfly for Literacy? *International Journal of Lifelong Education*, 21(1): 55-66.

Appendix A
Reading Exercise: Syllable Decoding Score (SDS)

Exercise 2. Single Syllables

ग	ल	च	ब	ट	ह	ण	अ
द	श	ढ	न	ख	व	छ	म
क्ष	प	ष	ज्ञ	फ	त	भ	ड़
क	ई	ज	ठ	उ	य	र	घ
ऊ	थ	स	इ	घ	ढ़	ड	झ

	हाँ	१.
	ना	२.
	नहीं पढा	३.
	आगे पढाना नहीं चाहते	९.