

An innovation to raise a nation's reading skills: Scale up of Same Language Subtitling (SLS) on Zee in Maharashtra



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Making it impossible to remain a non-reader

India has achieved near-universal enrolment of children, aged 6-14, in school. This bold advance has placed before the nation another challenge of massive proportions, the need to deliver quality education to the roughly 200 million children, aged 6-14, who are now in school. Quality education, of course, cannot be delivered unless India's children achieve basic functional reading competency by a certain age or Class level. The global experience clearly suggests that children should be able to read functionally by the end of Class 3 or roughly ages 9-10. If not, future learning is compromised.

The Annual Status of Education Report (ASER, 2014) found that, in rural India, only 40.2% in Class 3 could read a Class 1 level text. Only 48.1% in Class 5 could read a Class 2 text. The scale at which such a destructive level of reading, and by consequence, educational achievement is playing out nationally, boggles the mind.

Studies have further shown that, post schooling, most children's reading skills erode from lack of regular reading practice in everyday life. Consequently, the problem of extremely weak and non-functional reading skills, form the life experience of over half the children who complete Class 5. To be sure, they will be counted among the "literate" simply because they would have gone through a few years of schooling. Yet, the reality is that they will grow up to become youth and adults, unable to read, for example, a newspaper headline. Based on our own study in four Hindi states, we can say that an estimated 450 million "literate" people in India cannot read a simple text.

With half of India's population under 25, India has one of the world's youngest population. We have already entered the early part of the demographic dividend window that demographers have pointed out, is, 2010-2050. If nothing substantially different happens in the early part of this window, a vast majority of our population will simply remain non-readers in an information age. That would spell a demographic disaster, because basic functional reading skills are at the core of the 21st century's higher order skills.

The problem of low reading achievement, nationally, is clear. Is there a solution? Yes, and it is called, Same Language Subtitling (SLS). It works because it guarantees reading practice, as part and parcel of television entertainment already consumed by 800 million people nationally, and growing. No conscious or additional effort is required on the part of the viewer. Reading skill reinforcement becomes a daily and lifelong ritual for all, whenever the TV is turned on.

How well SLS can work, on the scale that is required and within the window of India's demographic dividend, can be judged by the following results from a two-year scale up of this innovation in Maharashtra state, on two popular Marathi channels, Zee Talkies and Zee Marathi.

SLS has the power to change the reading acquisition dynamic, from a national status quo of low achievement to one in which it becomes impossible to remain a non-reader.

Same Language Subtitling (SLS)

In essence, Same Language Subtitling (SLS) is Bollywood fortified with subtitles, for mass literacy. An observation first, it is impossible to grow up in India and not develop at least a passing and

lifelong interest in Bollywood movies and songs. For the overwhelming majority of 1.31 billion people, Bollywood is a passion without parallel, except for maybe cricket.¹

Conceived in 1996, SLS is simply the idea of subtitling mainstream TV content in the “same” language as the audio. What you hear is what you read. Several research studies have found that SLS causes automatic and inescapable reading engagement among viewers. Especially on song-based content, regular SLS exposure is known to contribute to reading skill improvement.

From 2002-13, the Indian Institute of Management, Ahmedabad and non-profit PlanetRead ran several SLS pilots in partnership with Doordarshan, India’s national/state TV network. SLS was implemented across India on song-based programming in 8 major languages: Hindi, Bengali, Gujarati, Marathi, Telugu, Tamil, Kannada, and Punjabi. In all those pilots, SLS was only implemented on one weekly episode in any language/state, but not scaled up. But even with a low frequency of implementation over a sustained period, SLS had a measurable and positive impact on reading skills.²³ So what could happen if SLS were to be scaled up on every song, in every language, on all of mainstream TV, as the SLS project has been advocating for with policy makers, since 2006?

SLS scale up in Maharashtra state

Under an All Children Reading Challenge (ACR) grant from USAID, IIM we were able to scale up SLS massively in the state of Maharashtra, population 114 million, and 9.2 million school children in the 6-14 age group with access to TV.

From June 2013 to May 2015, nearly two years, we added SLS on all the songs of 10 weekly Marathi movies telecast in prime time, on Zee Talkies, the state’s most popular 24 x 7 Marathi movie channel. The song-subtitled movies were further repeat-telecasted in other slots on Zee Talkies and on Zee Marathi, also the state’s most popular Marathi general entertainment channel. Together, this resulted in an unprecedented scale up of SLS in Maharashtra, far more than even the project had planned for or anticipated. Did the SLS scale up in Maharashtra have any impact on school children’s reading skills in the state?

Methodology

The Baseline (June 2013) and endline (May 2015) impact data were commissioned to an independent agency, Pratham’s ASER. ASER has a decade of experience conducting national surveys of reading skills. All the randomly sampled children were administered a series of reading exercises/tests with increasing level of difficulty, from decoding letters, reading simple and complex words, to reading short texts at Class 1, Class 2, and Class 5 levels.

Impact of SLS on children’s reading

Generally, Class 3 is a good point to assess a school system’s deliverance of reading skills. The trajectory of further reading skill development and educational progress is to a large extent

¹ India has nearly 800 million TV viewers already and slated to cross one billion in 2-3 years. The average Indian watches a little over two hours of TV a day. Content is available in a mix of more than 20 languages, on 600 channels. Bollywood produces around 1000 movies a year, each with an average of 5-6 songs. Bollywood songs are a dominant force on TV in India.

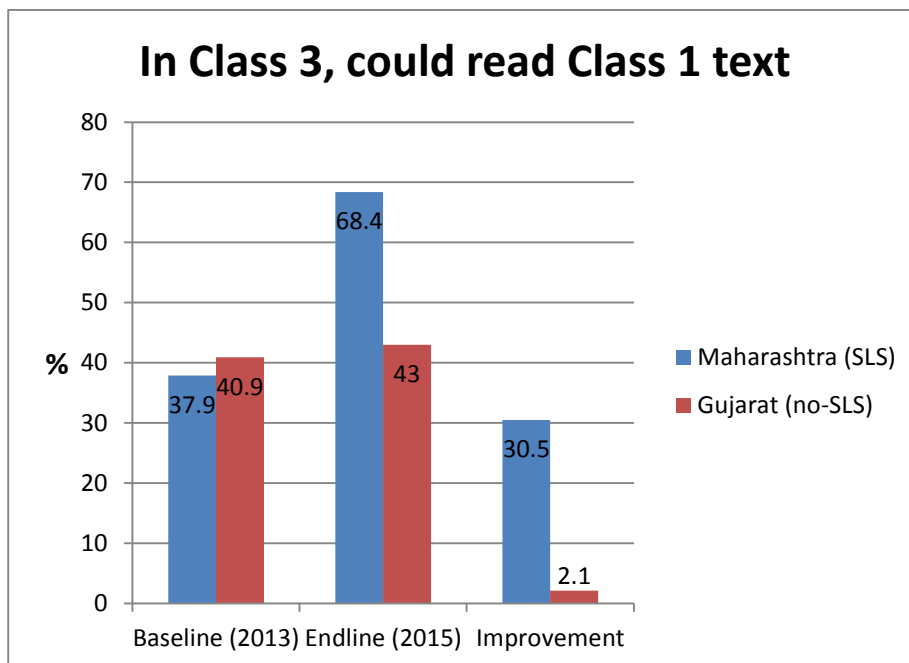
² Kothari, Brij and Tathagata Bandyopadhyay (2014). Same Language Subtitling of Bollywood film songs on TV: Effects on literacy. *Information Technologies & International Development*, 10(4), 31-47.

³ 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.

determined by what has transpired by the end of Class 3. So we took a snapshot of Class 3 reading skills in Maharashtra, at the baseline (June 2013) and the endline (May 2015).

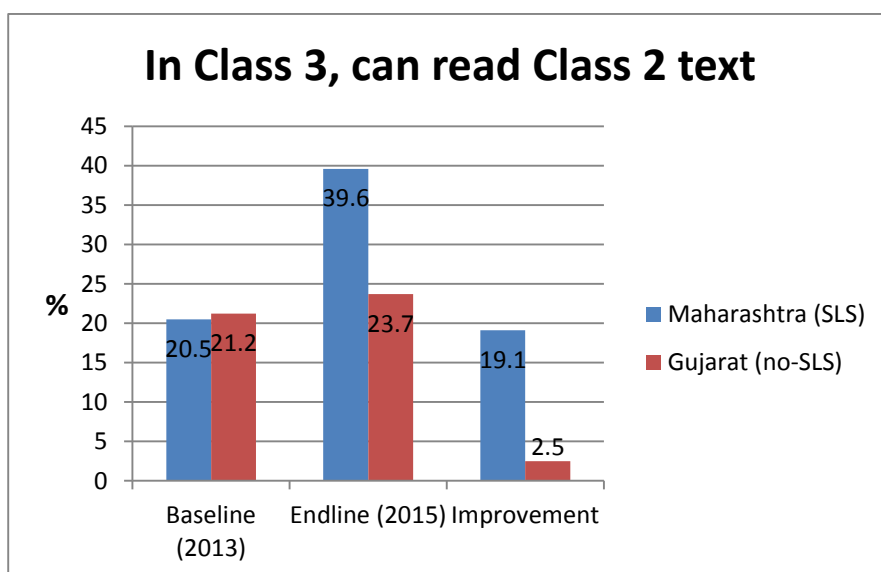
In Maharashtra, where SLS was scaled up, 30.5% more children in Class 3 progressed to Class 1 reading ability. In Gujarat, where there was no SLS, only 2.1% did (Figure 1).

Figure 1: Percent in Class 3 able to read at Class 1 level



The pattern is similar for those in Class 3 and able to read at a higher, Class 2 level (Figure 2). From baseline to endline, 19.1% more children are able to do so in Maharashtra as compared to 2.5% more children in Gujarat.

Figure 2: Percent in Class 3 able to read at Class 2 level



Clearly, something significant happened for children’s reading in Maharashtra that Gujarat could not match. But how do we know the impact was due to SLS?

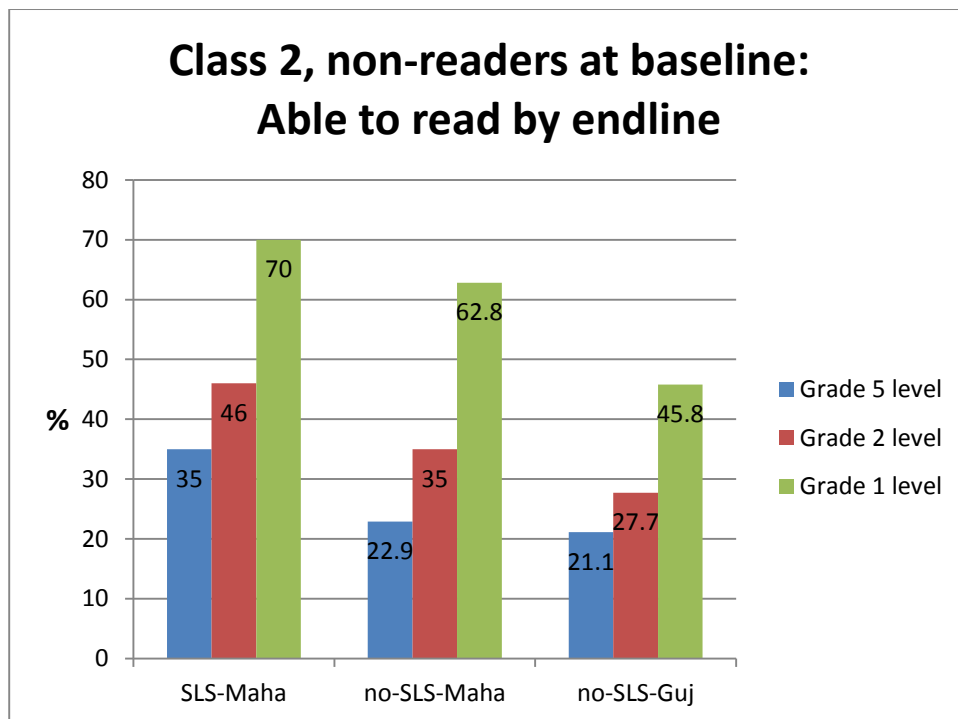
To answer that question, we did a more focused comparison of impacts on those who clearly would have got SLS exposure simply because of access to Zee’s Marathi channels at home (SLS-Maharashtra or SLS-Maha) and those who could not have, at least not to the same extent, due to the non-availability of those same channels at home, in Maharashtra (no-SLS-Maha) and in Gujarat (no-SLS-Guj).

Impact on Class 2 children at risk

Specifically, we looked at the impact of SLS on children in Class 2 at the baseline, who could not read a Class 1 level text, in other words, those already falling behind in early grades and unable to read a simple text. What happened to these at risk children after 2 years, by which time they would have nearly completed Class 4, in the SLS and no-SLS groups?

At every reading level measured, the SLS group did markedly better than both the no-SLS groups (Figure 3). Within Maharashtra, which is a tighter comparison, 12.1% more at-risk Class 2 children, at the baseline, advanced to Class 5 level reading ability by the endline; 11% more children in the SLS-group transitioned to Class 2 level reading; and 7.2% more children in the SLS-group transitioned to Class 1 level reading. The impact of SLS is even stronger when the SLS-group in Maharashtra is compared to the no-SLS-group in Gujarat.

Figure 3: Class 2, non-readers at baseline, able to read by endline, in Class 4



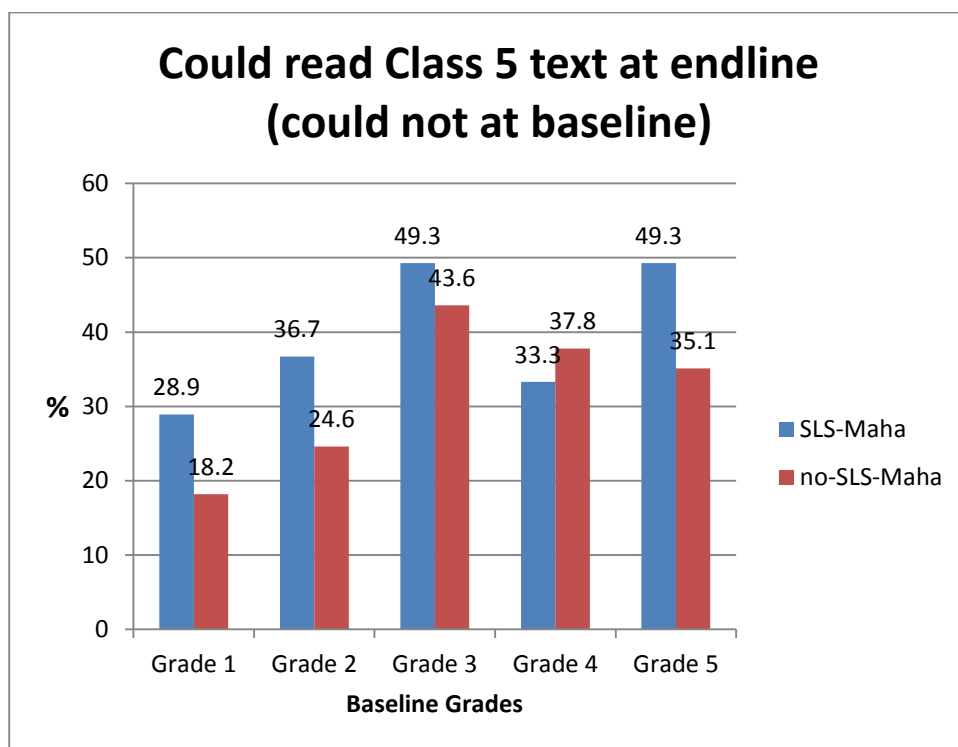
Why did the no-SLS group in Maharashtra do better than the no-SLS group in Gujarat? A possible explanation is that SLS has both direct and indirect impacts. When an intervention contributes positively to raising the reading skills of a significant proportion of children, in our

case 38% who had direct access to Zee’s Marathi channels, it raises the reading bar for all children. Another factor may be that children in the no-SLS-Maharashtra group could have enjoyed Zee’s Marathi programming at other people’s houses in the community, which is a common phenomenon in India.

When should SLS be introduced?

The earlier SLS is available at home, in parallel with beginning reading instruction, the more a school child will be able to leverage it to reinforce at home what is learned in school. This is confirmed when we look at the impact of SLS on children in different grades at the baseline. All the children in our sample could not read a Class 5 level text at the baseline. So it is instructive to ask, for every grade at the baseline, what proportion could read a Class 5 level text, by the endline.

Figure 4: Impact of SLS in different grades at baseline



For baseline Classes 1-3, the SLS group clearly outperformed the no-SLS group, however, the difference between the SLS and no-SLS group was largest for Class 1, slightly smaller for Class 2 and even smaller for Class 3 (Figure 4). Earlier grade availability of SLS is better. In Class 4 (baseline), the impact of SLS was not apparent in our data, although, it resurfaced for those in Class 5.

Girls and boys compared

An analysis of girls and boys, separately, found that both leveraged SLS well. Figures 5 and 6 present for girls and boys, respectively, the proportion that could read a Class 5 text at the endline. Except for Class 4 (baseline), for all other grades, the SLS-group did better than the no-SLS group in Maharashtra. Although boys and girls benefited from SLS, boys showed more substantial gains from SLS, especially for Classes 1-2 at the baseline. Without SLS, boys were

generally found to be lagging girls in reading achievement. But with SLS, boys were able to close the gap, and for Classes 1-2, leap-frog over girls' reading achievement. It is not difficult to see why this occurred. Social norms probably make it possible for boys to watch more movies on TV, and the viewing experience itself, less interrupted by household demands.

Figure 5: Impact of SLS on girls in different grades at baseline

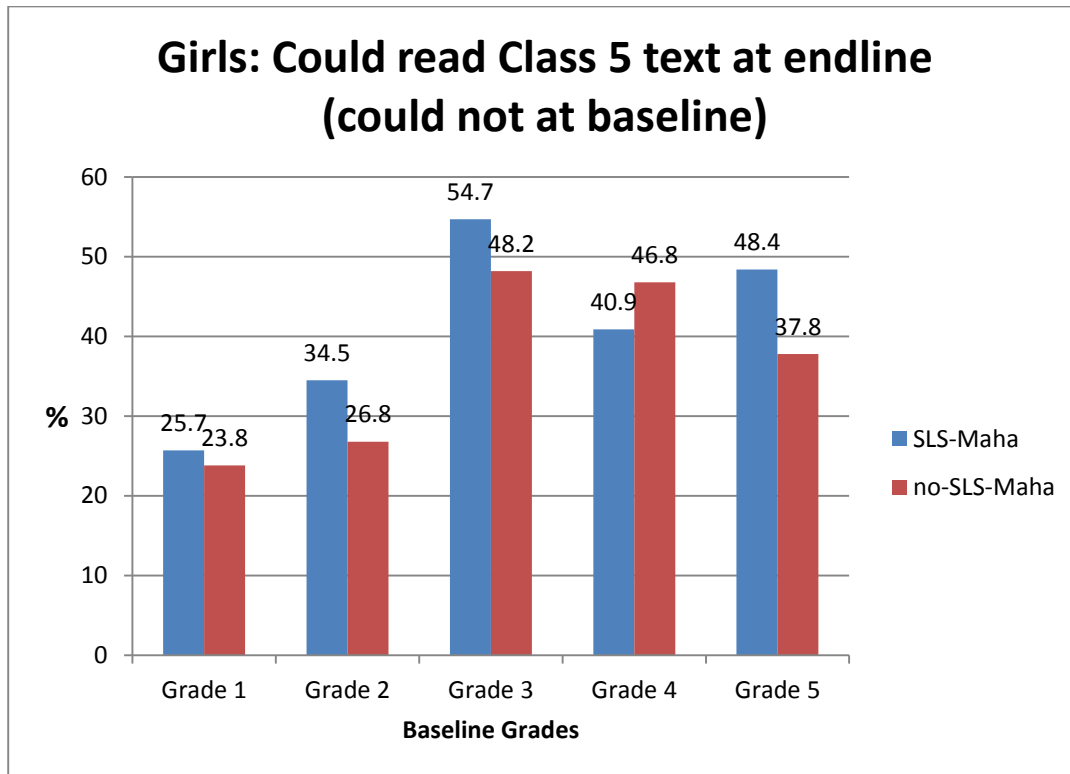
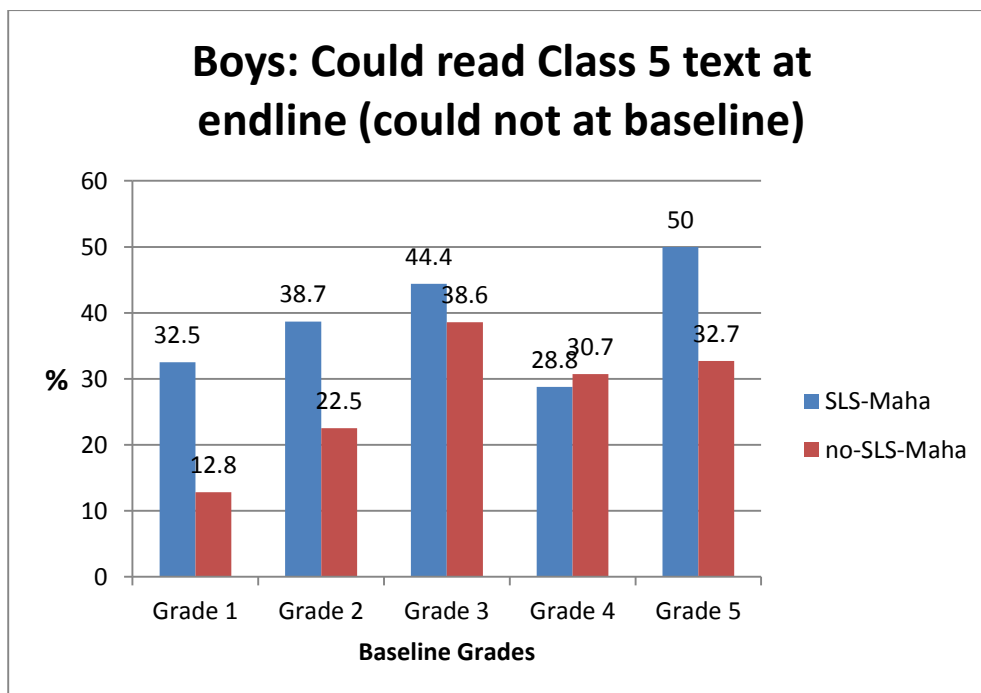


Figure 6: Impact of SLS on boys in different grades at baseline



Impact on the weakest readers

The weakest readers were those who remained unable to read, even by the endline, a Class 1 level text. What impact did SLS have on their early reading skills?

Even among children who did not advance to functional reading ability, outcomes for the syllable, simple word, matra/vowel, and complex word exercises showed that mean improvements in the SLS-group were higher than the no-SLS group and the group difference in means were statistically significant.

Less than 4% children remained at absolute zero ability in the SLS-group (could not read a single letter) and who can be clearly said to not be helped, either by schooling and/or SLS. This small percentage most certainly had a learning disability that neither the quality of schooling nor SLS could address.

The big picture

In Maharashtra, 9.2 million children have access to TV at present. Based on our sample, 38% or 3.5 million children have access to Zee Talkies and Zee Marathi. The direct beneficiaries of the SLS intervention are estimated to be 96% of those with direct SLS-exposure, or 3.4 million children. If SLS were to have also been scaled up on DDK Mumbai (state TV for Maharashtra), it would have given direct SLS exposure to 5.7 million children and advanced the reading skills of 5.5 million children. We also saw that the no-SLS group in Maharashtra generally did better than the no-SLS group in Gujarat, suggesting indirect effects. Therefore, the estimated number of children who benefited directly or indirectly from our SLS intervention in Maharashtra, was between 3.4 to 5.5 million.

Our analysis, of course, only focuses on school children aged 6-14. The population of Maharashtra is 114 million (2012). Around 60% or 68.4 million have access to TV and of these, 38% or 26 million have direct access to Zee Talkies and Zee Marathi.⁴ Conservatively, an estimated 25 million viewers of Zee Talkies leveraged SLS to improve their reading skills. If SLS were to be also implemented on DDK, Mumbai, the direct beneficiaries would have been as high as 66 million TV viewers. We chose not to implement on DDK, Maharashtra so that our impact study could have a no-SLS group in the state.

The annual cost per direct child beneficiary in our SLS intervention on Zee Talkies was less than Rs. 3/-. The annual cost per beneficiary, all ages/viewers, with access to Zee Talkies, was less than Rs. 0.50/-.

If an SLS scale up could deliver strong improvements in two years, it is not difficult to imagine what can be achieved over a lifetime of inescapable reading practice at home, as part of daily and already consumed entertainment. With a massive scale up of SLS in all languages in India, and on all songs, the context of reading skill acquisition can flip from: "Is it possible to make everyone a good reader," to, "Is it possible to stop anyone from becoming a good reader." In this sense, SLS is a positively disruptive solution – extremely low cost, evidence-supported (from several published research studies, including this one), and a large scale reading intervention.

⁴ Access to Zee Talkies and Zee Marathi is probably more than 38% because this figure is based on our rural sample from 4 districts in Maharashtra. Urban access would be much higher.