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Introduction

It is quite common in India's multilingual landscape to assume that "knowing a language" is a simple matter. Tamilians speak Telugu, Kannadigas speak Tamil, and everyone seems to follow enough English and Hindi to meet basic needs. In Bangalore's increasingly cosmopolitan context, everyday communication brushes aside language barriers as insignificant. Yet the politics of language has a long history in South India, and remains an undercurrent to all aspects of public life. In the case of children, the politics of language masks even more fundamental challenges: language shapes social, emotional, and cognitive development in primary education. This paper will explore the results of an accelerated programme for reading conducted in 2006 in 1410 of Bangalore's government primary schools through the lens of language. Ultimately, these results underscore the fact that policy decisions on medium of instruction cannot remain in the realm of politics or nationalism. They must take into account the conditions under which children are most likely to develop functional literacy skills.

Language in Primary Education

Language is a plainly visible aspect of teaching and learning in Bangalore's government classrooms. Many teachers complain of the difficulty of teaching children who do not speak the medium of instruction before entering school. Since some second-language learners are also migrant labourers or the children of migrant labourers from other states, issues of long absenteeism, late school entry, child labour, and the general trauma of displacement may add to the basic comprehension barriers they face. (This paper refers to children studying in mediums of instruction other than their mother tongues as second-language learners. This paper will use "mother tongue" and "first language" interchangeably.)

Evidence proves that children learn better when taught first in their first languages performing well in all subjects and even acquiring second languages more quickly (D August & K Hakuta 1997, and Dutcher 2004). The argument is intuitive: when students have to learn a language and learn "through" a language at the same time, they face greater challenges than students who already know the language (Dutcher 2004). A study by Thomas and Collier (quoted in Dutcher 2004:12) in the United States finds a direct correlation between amount or duration of first-language instruction and average percentile rank on national standardized tests. Dutcher finds that children instructed in their first languages have achieved well in several countries, with improved test scores in all subjects in Guatemala, improved retention rates and achievement levels in Papua New Guinea, and improved pass rates in Mali (Dutcher 2004:26).

Medium of instruction also affects the strength of linkages between home and school. According to Snow, the transition to school is "likely to be less difficult for a child whose home literacy experiences and verbal interactions most closely resemble what goes on in the classroom" (Snow, Burns and Griffin, (Eds.) 1998). Such linkages allow students to apply to written language the "tricks of the trade" they have learned in oral language (Snow, Burns and Griffin, eds., 1998: 75). Including first languages in school instruction allows for greater parental and community involvement in schools, since many parents may not speak the language of instruction. A study of six successful high schools in Arizona and California in the U.S. found that involving parents of language minority students was one of eight main factors contributing to their success (Cummins 1998 in Fullan and Hopkins (Eds.): 454). Beyond involvement in school-level decisions, parents can also support students' day-to-day learning activities – helping with homework, making connections between home and school, monitoring student progress, and interacting with teachers (Beykont in Cummings and McGinn (Eds.): 264).

What about bilingual education strategies that integrate first-language education with instruction in a national or international language? Evidence suggests that bilingualism has great cognitive benefits, including superior nonverbal reasoning and awareness of language structure (August and Hakuta 1997:14). Rather than replacing one language with another, good bilingual education allows for a complementary relationship between languages, such that proficiency in one language improves proficiency in another. Further, students in bilingual classrooms may perform better in subjects outside of language. For example, in several United States studies, children in bilingual programmes in upper elementary grades performed better in both reading and math than children in programmes that demanded immediate transition to English (Beykont in Cummings and McGinn (Eds.): 274).

More broadly, first-language study gives children and parents a sense of pride and accomplishment. The United Nations has referred to the right of every minority student to "use his or her own language," a need Dutcher calls a "linguistic human right" (Dutcher 2004: 14).

Language Policy in Karnataka

The state of Karnataka was originally defined mainly on the basis of language, by uniting geographical units with Kannada-speaking majorities. In 1963, the Karnataka Official Language Act defined Kannada as Karnataka's official language. Still, Karnataka is highly multilingual: according to the 2001 Census, out of 10,000 people in Karnataka, 6,626 speak Kannada as their mother tongue, 1,054 speak Urdu, 703 speak Telugu, 357 speak Tamil, 360 speak Marathi, 256 speak Hindi, 146 speak Konkani, and 133 speak Malayalam (Census of India 2001, Data on Language, www.censusindia.gov.in.

This multilingualism has been a constant undercurrent to debates about language policy in Karnataka, which have often been more about cultural rights and identity politics than about the best way to teach children to read. After 1956, Karnataka's general policy allowed for choice of languages; students could choose their first language from

Kannada, Telugu, Tamil, Hindi, Urdu, Marathi, English, or Sanskrit. In 1982, alongside public pressure to make Kannada the language of state in Karnataka, the Government issued a circular dictating that Kannada would be the sole first language for all students, with 15 "grace marks" on the Kannada examination for students whose mother tongue was not Kannada. Only students in VIII or IX Standard migrating from outside of Karnataka would be exempted from the policy. The Linguistic Minorities Protection Committee and a group of protestors challenged the new policy before the High Court as a violation of linguistic rights. Judges ruled in their favour, and by 1989, students could again choose their mother tongues as their first languages, as long as Kannada was an optional second language starting in Standard III and a compulsory second language starting in Standard V for those whose mother tongue was not Kannada (Mallikarjun 2002).

Starting in 1994, however, again as an attempt to assert Kannada's pre-eminence in Karnataka, the state government declared that all new schools – both public and private -- must be Kannada-medium. While many private schools skirted this requirement, government schools followed the policy, and introduced English as a second language in Standard V. In response to public demand, starting in 2007, government schools moved the introduction of English as a second language to Standard I. "Linguistic minorities" in schools opened before 1994 are now required to study Kannada and English as well as their mother tongues.

Across India, parents appear to equate good education and job opportunities with English-medium education. In Tooley and Dixon's study of 315 low-income parents who sent their children to private unaided schools in Hyderabad, for example, 90% stated that English medium was "very important" to them in choosing a school, and another 6% said it was "quite important" (Tooley and Dixon 2003:14). English medium was by far the most important factor in their choice of school. Yet Miller points out that "while no one is denying children the right to learn Hindi or English…this does not mean they need to become the medium of instruction….it remains important to start first with the children's own language, and then move on to the standard language" (Miller in Banerji and Surianarain 2005:115). After interviews with parents, Miller found that many could not distinguish learning to speak English and using English as the medium of instruction – their main desire was for their children to speak English, not necessarily to learn all subjects in English medium.

The ideal situation, then, is for primary-school children to learn in their mother tongues, with high-quality teaching of Kannada and English. The National Curriculum Framework 2005, in fact, advocates a "multilingual" approach: "We should…move towards a common school system that does not make a distinction between "teaching a language" and "using a language as a medium of instruction" – essentially, multiple languages should be applied throughout the curriculum in a complementary manner (NCERT, 2005:38-39; Census of India 2001). Research suggests that such an approach will maximize children's ability to learn to read, but it is, like all initiatives, critically dependent on high-quality teaching and monitoring. Unfortunately, implementation of India's well-formulated educational policies has always been difficult.

The Karnataka Learning Partnership

The Karnataka Learning Partnership (KLP) is a unique public-private partnership between the Government of Karnataka, through the Education Department with support from Sarva Shiksha Abhiyan (SSA), and the Akshara Foundation, a non-profit organization. Starting in July 2006, KLP conducted a 45-session accelerated reading intervention for all children in Bangalore schools who could not read a simple sentence. After receiving training in the intervention's teaching methodology, government teachers implemented the programme in "centres" of 20 children, selected for the programme through a baseline assessment. Each child in the remedial intervention was evaluated 3 more times over the course of the programme: at the 15th session, the 30th session, and the 45th session. Currently, using the same institutional model, KLP is implementing a 60-session math programme – called *Nagu Nagutha Ganitha* (NNG) – that utilizes an innovative, hands-on curriculum. Within the next year, KLP will extend its reading programme to 10 districts in Karnataka as the *Oduva Siri* (Reading Support Programme [RSP]).

Though both KLP's math programme and its reading programme have been time-bound interventions, KLP is meant to inspire sustainable change in the quality of the government school system through innovative solutions and the use of data and technology. Analyzing data with respect to language is part of this effort.

Children and Language in Bangalore: Baseline Data

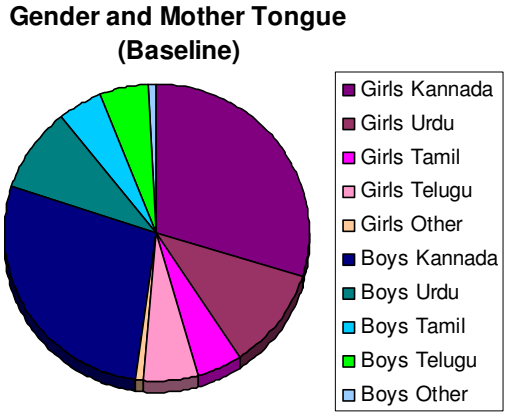
Mother tongue can be defined in a variety of ways: while some might refer to their mother tongues as ancestral languages they themselves no longer speak, others speak only their mother tongues at home, and their children are only exposed to other languages when they enter school.

Demographic statistics for urban Karnataka indicate a substantial number of migrant children for whom Kannada might be a completely unknown language. According to the 2001 Census, urban Karnataka in 2001 was home to 1,226,040 out-of-state migrants, 503,171 from rural areas and 722,869 from urban areas. In all, they comprised 14.1% of Karnataka's urban population. Among urban out-of-state migrants, males outnumbered females by about 18,000: there were 370,449 males and 352,420 females. The top 3 home states for out-of-state migrants to Karnataka (both urban and rural) were Andhra Pradesh (569,998 migrants) Tamil Nadu (524,857 migrants) and Maharashtra (400,480 migrants). About 37% of all migrants to Karnataka (including within-state and out-of-state migrants to both urban and rural areas) are between 0 and 19 years of age.[1]

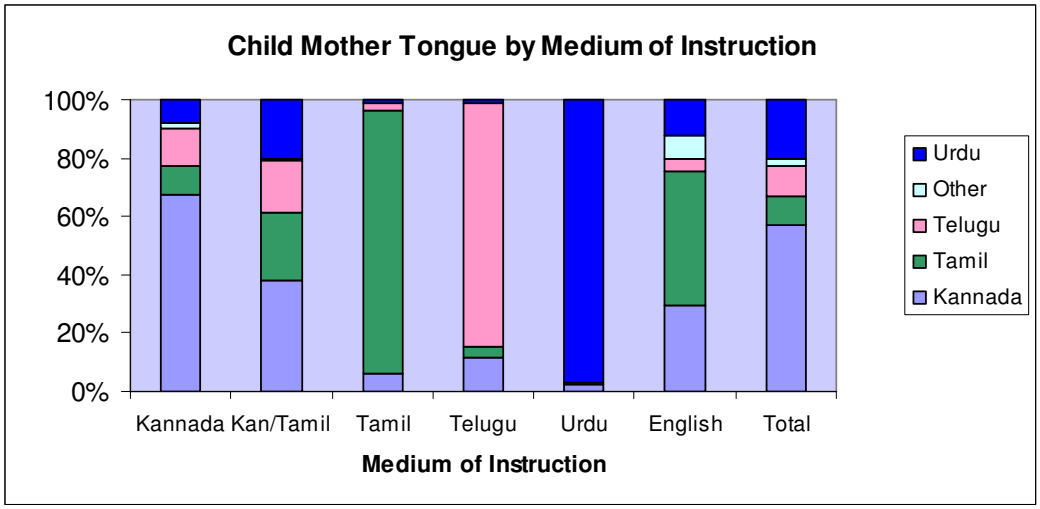
KLP data aligns with these statistics. At baseline, Kannada-speaking children comprised just over half of the total population in government schools. Of the population of girls, 21.6% were Urdu-speakers, and 19.4% of boys were. The remaining children were Tamil and Telugu speakers, with 1.9% of boys and 1.8% of girls speaking other

languages. In most blocks, Kannada-speaking children formed the majority; however, in North 3, South 2, and BMP, Urdu- speaking children exceeded the number of Kannada-speakers. Girls outnumbered boys in all mother-tongue groups, particularly among Urdu-speakers, where girls comprised 55% of the population.

	Girls					Boys				
	Kannada	**Urdu**	**Tamil**	**Telugu**	**Other**	**Kannada**	**Urdu**	**Tamil**	**Telugu**	**Other**
Anekal	7599	808	602	1477	214	7291	730	608	1407	244
North 1	7884	845	550	524	215	6941	783	566	487	218
North 2	1979	1149	590	554	108	1889	880	624	469	93
North 3	1473	3587	859	607	46	1601	2719	833	564	50
North 4	8905	1852	835	1629	229	8539	1601	808	1607	242
South 1	8403	1976	597	537	174	7788	1631	607	471	165
South 2	2273	3512	925	388	101	2111	2927	925	396	106
South 3	6371	3421	1572	1253	270	5795	2737	1407	1088	240
South 4	6254	2239	1436	2857	265	5766	1788	1362	2556	226
BMP	116	192	284	96	5	99	226	281	97	7
TOTAL	51257	19581	8250	9922	1627	47820	16022	8021	9142	1591
PERCENT GENDER	56.6%	21.6%	9.1%	10.9%	1.8%	57.9%	19.4%	9.7%	11.1%	1.9%
PERCENT MT	51.7%	55.0%	50.7%	52.0%	50.6%	48.3%	45.0%	49.3%	48.0%	49.4%



Overall, there are 1193 Kannada-medium government primary schools in Bangalore, 176 Urdu-medium, 30 Tamil-medium, 8 Telugu-medium, 1 English-medium, and 2 Kannada/Tamil-medium. While the majority of children in each speak the medium of instruction, all have at least some second-language learners.



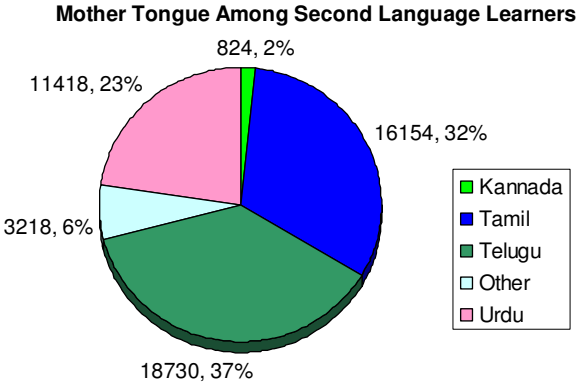
A substantial proportion of the children in Kannada-medium schools –33.5% of the boys and 32.3% of the girls – reported mother tongues other than Kannada at baseline. By contrast, only 3.6% of the boys and 3.0% of the girls in Urdu-medium schools have mother tongues other than Urdu. The highest percentage of second-language learners occurred in the 2 Kannada/Tamil-medium schools (37.7% among boys, 38.8% among girls). Tamil- and Telugu-medium schools have lower percentages of second-language learners.

Overall, at baseline, 48,839 children were learning in languages other than their mother tongues, or were second-language learners. These children comprised 29.4% of the boys and 27.1% of the girls in the Bangalore school system, or 28.2% of the total.

	Medium of Instruction								
Mother Tongue	**Kannada**	**Kannada/Tamil**	**Tamil**	**Telugu**	**Urdu**	**English**	**TOTAL**	**Second Lang**	**% Second Lang**
Kannada	97983	188	106	46	732	22	99077	906	0.9%
Tamil	14479	117	1585	16	40	34	16271	16154	99.3%
Telugu	18579	88	42	334	18	3	19064	18730	98.2%
Other	3183	3	3	0	23	6	3218	3218	100.0%
Urdu	11282	99	21	5	24187	9	35603	11416	32.1%
TOTAL	145506	495	1757	401	25000	74	173233	48839	28.2%
Second Lang	47523	190	172	67	813	74	48839		
% Second Lang	32.7%	38.4%	9.8%	16.7%	3.3%	100.0%	28.2%		

Notably, a very small percentage (0.9%) of Kannada-speaking children are second-language learners, while the vast majority of Tamil, Telugu, and "Other"-speaking children are. Kannada-medium and Kannada/Tamil-medium schools have the highest percentages of second-language learners, while Urdu schools have the lowest percentage. Sixty-nine percent of all second-language learners speak Tamil or Telugu; the majority of

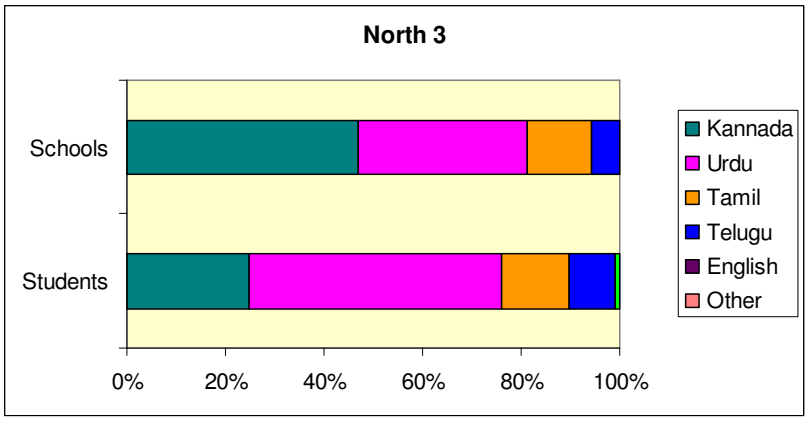
the remaining (23%) speak Urdu. Ninety-eight percent of second-language learners, or 47,523 children, study in Kannada-medium schools.

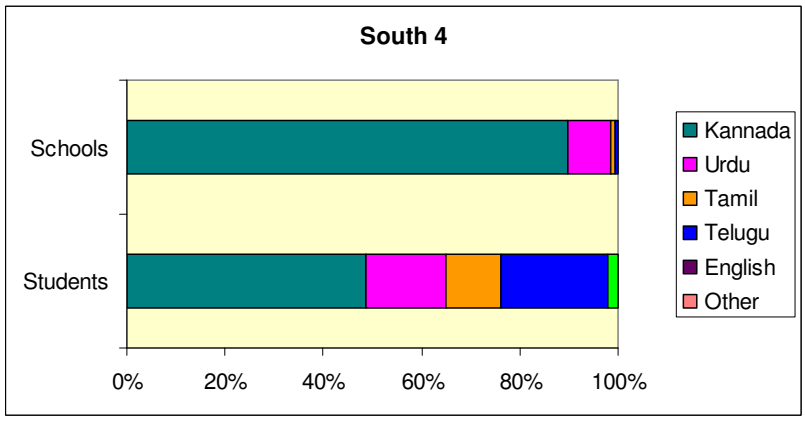


Bangalore is divided into 9 geographically defined educational blocks; additionally, the Bangalore Mahanagara Palike administers several schools in the city. Block-wise differences in the proportion of second-language learners highlight the relationship between geography and language. Children learning in a second language are the majority (69.9%) in the 12 BMP schools. In the rest of the city, the proportions are not so high. In South 1 Block, for example, 19.0% of boys and 16.9% of girls are learning in a second language. South 4 has a high proportion of second-language learners, a total of 42.2%.

	Girls		Boys		Percent 2nd Lang		
	1st Lang	2nd Lang	1st Lang	2nd Lang	Boys	Girls	Total
Anekal	8043	2657	7592	2688	26.1%	24.8%	25.5%
North 1	8203	1815	7151	1844	20.5%	18.1%	19.2%
North 2	2867	1513	2556	1399	35.4%	34.5%	34.9%
North 3	4973	1599	4253	1514	26.3%	24.3%	25.2%
North 4	9795	3655	9101	3696	28.9%	27.2%	28.0%
South 1	9714	1973	8640	2022	19.0%	16.9%	17.9%
South 2	5322	1877	4408	2057	31.8%	26.1%	28.8%
South 3	9214	3673	7824	3443	30.6%	28.5%	29.5%
South 4	7704	5347	6611	5087	43.5%	41.0%	42.2%
BMP	215	478	208	502	70.7%	69.0%	69.9%
TOTAL	66050	24587	58344	24252	29.4%	27.1%	28.2%

Blocks with higher proportions of second-language learners may have higher proportions of Tamil, Telugu, and Urdu children, but they may also have a poor match between student mother tongue and school medium of instruction. For example, though children in North 3 Block speak a wide range of languages, a high proportion of schools teaching in languages other than Kannada meets this need. By contrast, South 4 block has few such schools.





At the school level, there exists a wide spectrum of language profiles. Bangalore's schools range from having no second-language learners to having 100% second-language learners. Seven schools are 100% second-language learners. One is an English-medium school, the only one in the city; one is a Tamil-medium school and the other five schools are Kannada medium. In the average school, 26.2% of children are second-language learners. In 93 schools, between 76% and 99% of children are second-language learners.

	Schools by % of Children Learning in a Second Language						
	0%	**1-25%**	**26-50%**	**51-75%**	**76-99%**	**100%**	**TOTAL**
Anekal	67	102	46	38	15	1	269
North 1	24	62	20	7	3	0	116
North 2	1	23	19	7	5	0	55
North 3	18	25	19	13	9	0	84
North 4	65	89	58	20	11	5	248
South 1	66	115	28	8	5	0	222
South 2	16	28	10	9	13	1	77
South 3	27	41	24	26	9	0	127
South 4	15	52	47	66	14	0	194
BMP	1	2	0	1	6	0	10
TOTAL	300	539	271	195	90	7	1402

Language and Children's Reading

It is misleading to analyze children's progress through the reading programme on the basis of mother tongue or medium of instruction alone. At baseline, Kannada-medium schools had the highest percentage of readers (53.5%), followed by the English-medium school (47.1%); Tamil schools had the lowest (21.9%). By the 45th session of the programme, among children who completed it, 82.2% of those in Telugu-medium schools were reading, followed by 72.4% in the English-medium school, 65.1% in Urdu-medium schools, and 64.3% in Kannada-medium schools; the 2 Kannada/Tamil schools had the lowest proportion of readers (47.3%).

% Children Reading at Sentence or Paragraph Level

	# Schools	Baseline	15th Day	30th Day	45th Day
Kannada	1193	53.5%	23.7%	44.2%	64.3%
Urdu	176	35.3%	25.5%	46.1%	65.1%
Tamil	30	21.9%	17.5%	32.3%	53.0%
Telugu	8	42.9%	55.4%	70.2%	82.2%
English	1	47.1%	0.0%	17.2%	72.4%
Kannada/Tamil	2	32.7%	12.4%	31.8%	47.3%

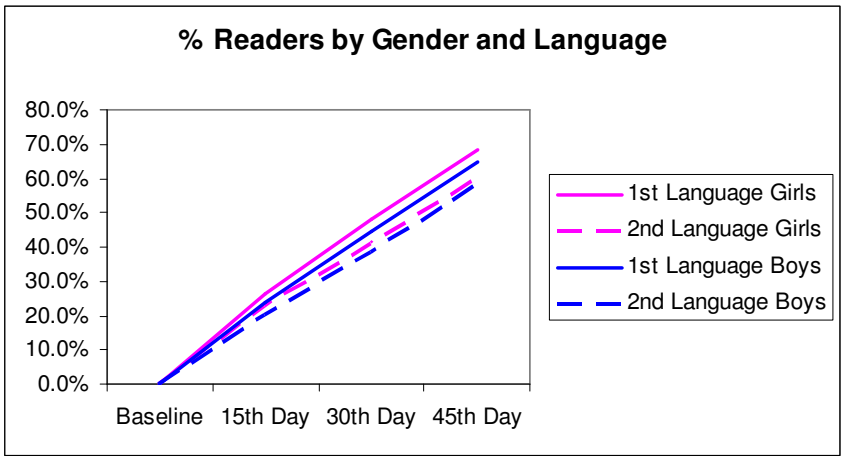
Mother tongue provides a different angle to the analysis. Kannada-speaking children had the largest proportions at sentence or paragraph ("reader") level, followed by Telugu-speakers, then speakers of "other" languages, and then Tamil-speakers. The smallest proportion of readers occurred among Urdu-speakers. By the 45th day, Tamil-speaking boys now had the smallest percentage of readers (56.0%), exceeded slightly by Urdu-speaking boys (58.0%). Meanwhile, 66.0% of Urdu girls had become readers, surpassed only by Kannada boys (66.3%) and Kannada girls (68.0%). Telugu-speakers and "Other"-speakers remained in the middle, with Telugu-speakers performing slightly better. In all mother tongue groups, girls outperformed boys.

% Children Reading at Sentence or Paragraph Level

	Baseline	15th Day	30th Day	45th Day
Kannada Boys	53.7%	24.1%	45.7%	66.3%
Kannada Girls	57.9%	25.9%	47.6%	68.0%
Urdu Boys	33.6%	21.1%	39.3%	58.0%
Urdu Girls	41.6%	26.3%	47.4%	66.0%
Other Boys	40.2%	19.7%	40.9%	59.9%
Other Girls	44.4%	21.6%	41.0%	60.3%
Tamil Boys	50.1%	18.9%	36.1%	56.0%
Tamil Girls	52.9%	21.3%	39.4%	59.4%
Telugu Boys	49.9%	23.0%	42.2%	62.0%
Telugu Girls	52.9%	24.6%	43.5%	62.5%

Though Telugu-medium schools performed extremely well as a group, Telugu-speaking *children* showed more mediocre performance. This disconnect draws attention to the match between mother tongue and medium of instruction: Telugu-speaking children were

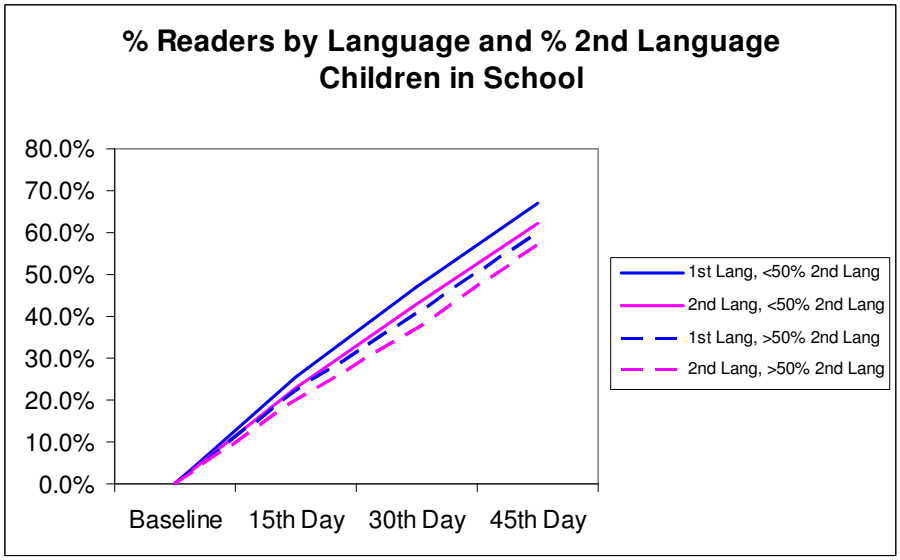
much more likely to become readers during the programme if they attended Telugu medium schools. KLP data shows a substantial difference between the performance of second-language learners and their first-language peers.



% Children Reading at Sentence or Paragraph Level

	Baseline	15th Day	30th Day	45th Day
1st Language Girls	0.0%	26.5%	48.2%	68.2%
2nd Language Girls	0.0%	22.6%	41.2%	60.4%
1st Language Boys	0.0%	23.9%	44.7%	64.9%
2nd Language Boys	0.0%	20.1%	38.4%	58.0%

Not only does a child's language match with the medium of instruction matter for her/him; it can also matter at a school level. KLP data shows that *both* first-language and second-language learners do better if a school has a lower percentage of second-language learners.



Multiple regression indicates that these relationships remain significant after controlling for other variables. The percentage of second-language learners in a school at baseline was an important predictor of the percentage of readers in that school by the end of the programme. Controlling for pupil-teacher ratio and average teacher experience, a difference of 1 percentage point in the percentage of second-language learners in a school was associated with a difference of 0.12 percentage points in the percentage of readers in the school at the 45th session. In other words, the percentage of children reading in the programme by the 45th session could be predicted by the following equation:

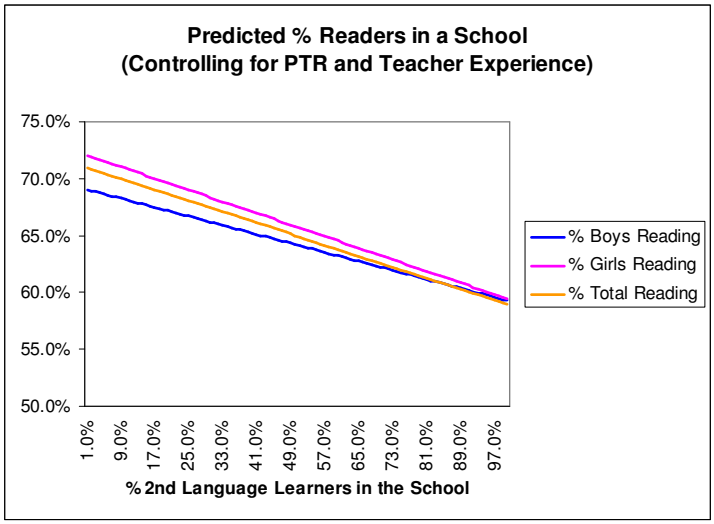
Percent reading = 0.89 – 0.12 (% 2nd language) – 0.04 (log2(PTR) =0.003 (teacher experience)

Separate regressions for percentage of girls and boys reading gave similar results.

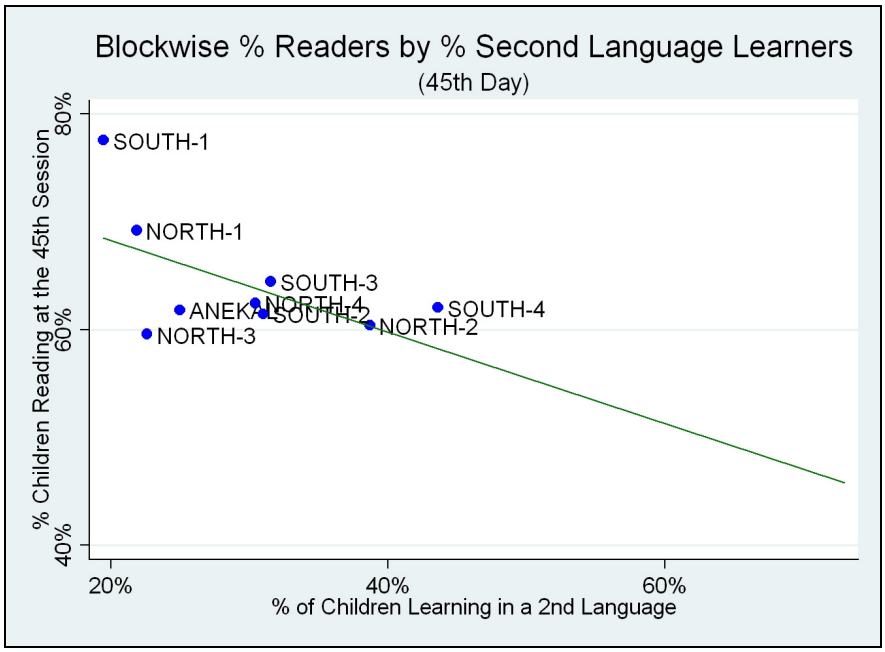
	% Girls Reading	% Boys Reading	% Total Reading
Intercept	0.8858***	0.8727***	0.8902***
SE	0.0514	0.0527	0.0469
t	17.24	16.56	18.96
% 2nd Lang	-0.1274***	-0.0987***	-0.1204***
SE	0.025	0.0256	0.0229
t	-5.1	-3.85	-5.25
Log2(PTR)	-0.0418***	-0.0427***	-0.0447***
SE	0.0104	0.0107	0.0095
t	-4	-4	-4.69
Ave. Exp.	0.0032**	0.0023*	0.0031**
SE	0.001	0.0011	0.001
t	3.1	2.19	3.29
R^2	4.28%	3.00%	4.93%
RMSE	0.25	0.26	0.23

***p<0.05, **p<0.01, ***p<0.001**

The following graph provides one visual representation of the regression results, showing that, on average, schools with higher proportions of second-language learners tended to have higher proportions of readers by the 45th session. The graph represents predictions assuming average PTR and teacher experience.



Interestingly, girls as a rule outperformed boys. The relationship between language and reading success remains notable in the aggregate. For example, the block with the lowest percentage of second-language learners, South 1, was also the one with the highest percentage of readers at the end of the programme; South 4, with a higher percentage of second-language learners, had a lower percentage of readers.



Conclusions

It is important to note that these predictions reflect relationships, not causality. For example, having a higher percentage of second-language learners in a school could be a result of the fact that a language-diverse classroom makes learning difficult for everyone, or that it reduces teacher motivation, or even that a high percentage of second-language

learners indicates some other factor we cannot capture, such as lower socioeconomic status in the area or recent migration. Language is only one lens through which to understand complex social dynamics.

Still, it is clear that language in education cannot be simply an issue of linguistic nationalism. It must also take into account the chid's cognitive process as she learns to read, and the importance of a welcoming, comprehensible envioronment in the early stages of her schooling. Such considerations point to the need for more flexible, pluralistic language policies in order to maximize children's potential.

References

D. August & K Hakuta (Eds.) (1997). ***Improving schooling for language-minority children: A research agenda.*** Washington, DC: National Academy Press.

Z. Beykont, 1997. Refocusing school language policy discussions. In W. Cummings & N. McGinn (Eds.), **International handbook of education and development**. New York: Pergamon Press. p. 274.

Census of India, 2001. Data on Language, www.censusindia.gov.in

Census of India, 2001. D-Series Tables: Migration, www.censusindia.gov.in.

J. Cummins, 1998. Language issues and educational change. In A Hargreaves, A Lieberman, M Fullan & D Hopkins (Eds.). ***International handbook of educational change.*** Boston: Kluwer Academic Publishers. p. 454.

N. Dutcher, 2004. ***Expanding educational opportunity in linguistically diverse societies.*** Washington, DC: Center for Applied Linguistics.

B. Mallikarjun, 2002. Language Policy for Education in Indian States: Karnataka, **Language in India** 2(9): www.languageinindia.com/dec2002/karnatakaeducationpolicy.html.

S. Miller, 2005. Language in Education: Are We Meeting the Needs of Linguistic Minorities in India? In Rukmini Banerji & Sharmi Surianarain, Eds. ***City Children, City Schools***. New Delhi: Pratham Resource Centre. p. 115.

NCERT, 2005. ***National Curriculum Framework*** pp. 38-39.

C. Snow, M. S. Burns & P. Griffin (Eds.). 1998. **Preventing reading difficulties in young children** National Academy Press. p. 64.

Thomas & Collier. 1997., cited in Dutcher, p. 12

J. Tooley & P. Dixon, 2003. ***Private School for the Poor: A Case Study from India***. Reading: CfBT. p. 14.

Colophon:

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