



SWARA

A Symphony of Liberating Voices



NMRC NEWSLETTER

Editor : Dr. Minati Panda

EDITORIAL

Inside this issue:

Editorial	1
Does MLE Work in Andhra Pradesh & Odisha? A longitudinal study Minati Panda, Ajit K. Mohanty, Shivani Nag & Bapujee Biswabandan, Jawaharlal Nehru University	2
NMRC Activities	23
NMRC News	24

NMRC Directors :

Ajit Mohanty & Minati Panda

NMRC Staff :

Shivani Nag
- Research Officer

Sakshi Manocha
- Research Associate

Bapujee Biswabandan
- Research Associate

Poonam
- Computer Operator

Integral to the concept of multilingual education (MLE) in India is the concept of bridging; bridging between everyday world of the children and the school. Choice of a particular kind of MLE model by the Indian states was influenced by a dominant view of the problem of tribal children's learning in regular Government schools as one of 'poor' or 'inadequate' bridging between their everyday language and concepts and the school language and the academic concepts. Bridging, thus, became a historically constructed dominant metaphor among the tribal education experts including leading language pedagogues in India dictating the manner in which MLE discourses were conceptually framed.

This led to modeling of MLE programmes around the issues of bridging that inappropriately translated Jim Cummin's linguistic interdependence theory into a practice of two 'roads' to learning (again, improperly linked to BICS and CALP), one leading to the other or one making the other intellectually accessible. The challenge of bringing child's everyday world into the classroom and her identity was addressed within this prejudged framework using a notion called 'theme web'. The theme web organized pedagogic practices around temporal sequences of tribal people's agrarian and cultural lives during the academic calendar of 10 school months in a year.

Adherence to this model by the state bureaucracy was partly due to the paradigmatic perpetuation of the older model of teaching and learning. The new transition model didn't question the societal language hierarchy as it operated through the use of identified single mother tongue as the Medium of Instruction in the class. Different mother tongues or languages appeared sequentially. The sequencing of the languages in the 'early exit' model in the MLE classrooms more or less matched their hierarchical positions in our society. The major pedagogic achievement rested in the act of individual child crossing the bridge between two languages to a certain level of success. Success here was defined in terms of scholastic achievement and not in terms of development of positive social identities and motivation.

Our analysis of the contents of each theme revealed (see our Longitudinal Study Report, 2011) that the environmental themes, occupations, rituals of tribal communities and select artifacts are presented in historically and politically neutral manner. This effectively subverts any scope of contesting history of the dominant academic narratives and thus of particular kind of construction of identities. Such a model of MLE does not seem to be founded on a good reformist agenda.

In terms of concrete classroom pedagogic practices, this model fails to promote an egalitarian positioning and simultaneous use of multiple languages as classroom resource for teaching language and mathematics with reference to history and sociology of knowledge in tribal societies. An egalitarian departure from the hierarchical MLE in its current form seems to be necessary to delegitimize the hegemonic positions of certain languages over the language of tribal children and to expose the arbitrariness of such a hierarchy. The new approach, being subversive in its very content and structure, is interpreted as non-feasible, non-translatable and difficult-to-imagine by the state bureaucracy and the bridge obsessed transition experts.

Although many of us were uncomfortable with this particular outcome (i.e. MT based early-transition model of MLE) of these self-contained discourses of bridging, we conceded that, in a state where tribal children are historically forced to experience rejection of their languages and cultures burdened with non-comprehension and poor academic performance, any model where the tribal children's language and everyday experience are used (albeit within a minimal and reductionist framework of learning) was still a welcome move. We, therefore, considered it necessary to undertake a longitudinal study to systematically document and showcase the success and the limitations of the current MLE programmes so that academic bases for our old demands of addressing child right issues in schools in concrete terms can be developed.

NMRC began this study in 2009 and has completed five time-lines by April 2011. We had presented a brief interim report after completion of three time lines in late 2010 to our advisory and steering committees. We are now presenting a summary report at the end of all 5 time-lines in this newsletter for a larger dissemination of the findings. The detailed report is in the press now. We hope that our findings will provide concrete evidences for supporting and enriching MLE programmes for the linguistic minority communities.

Minati Panda

DOES MLE WORK IN ANDHRA PRADESH & ODISHA? A LONGITUDINAL STUDY

Minati Panda, Ajit K. Mohanty, Shivani Nag & Bapujee Biswabandan,
Jawaharlal Nehru University

Introduction to the study

Increasing linguistic homogenisation in classrooms world over has resulted in two major casualties - increased drop out among children belonging to linguistically and socio-culturally marginalised groups and disappearance of several minority and indigenous languages. While the later has been termed as 'linguistic genocide' (Skutnabb-Kangas, 2000), the former has been redefined as 'push out' instead of 'drop out' (Skutnabb-Kangas, 2000; Mohanty, 2009). In case of India, different tribal groups have been some of the worst victims of this linguistic exclusion given their limited exposure to dominant languages. The pedagogic importance of child's home language along with the will to save and strengthen indigenous languages has led to the Multilingual Education (MLE) as a compelling alternative perspective the world over. Multilingual education has often been understood as 'use of two or more languages as media of instructions in subjects other than the languages themselves (Anderson & Boyer, 1978). Mohanty, Panda, Phillipson & Skutnabb-Kangas (2009) have gone beyond the processes to include the goals while defining MLE as - *"Use of two or more languages as media of instruction in subjects other than the languages themselves and with (high levels of) multilingualism and, preferable, multiliteracy, as a goal at the end of formal schooling."* (Pp.3).

MLE in India

In India, the MLE programme was formally introduced in Andhra Pradesh in 2004 and in Odisha in 2006 following a brief phase of development of curriculum and MLE learning materials including textbooks by a collective of language experts, educationists, department of Tribal Welfare, NGO representatives working in tribal areas, subject experts and local members of the tribal community. It is now being upscaled to nearly 2500 more schools across eight districts in eight tribal languages in Andhra Pradesh and 544 additional schools

across eight districts in ten tribal languages in Odisha. In the MLE schools across the two states, the mother tongue of the tribal children is used as the medium of instruction (MoI) in grade I and then based on a transition plan a gradual shift is made to the dominant state language (Odia in Odisha and Telugu in Andhra Pradesh) over the next four years. By the time the student reaches grade V, there is a hundred percent shift to the dominant state language as the MoI, although the MT may continue as a language subject. The teaching learning materials use local artifactual and cultural resources and contexts of the tribal children. The materials prepared include subject textbooks in tribal language, big and small books based on certain themes, alphabet and number charts, story books, glossaries, tribal language phrase books, teacher handbooks and picture dictionaries. In Odisha particularly, an academic year is divided into three terms and each term is divided into ten weeks for a theme web based curricular transaction. There are thirty themes in the web for thirty weeks and the themes are taken from the local context. The curriculum is reported to follow a 'Two Track Strategy' aimed at developing a child's Basic Inter-personal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP). The MLE programmes in the two states are thus influenced by the work of Jim Cummins, particularly his 'Developmental Interdependence Hypothesis' (1979, 1981).

Theoretical basis of MLE programmes in India

A child's second language competence (L2), according to Cummins (1971, 1981) is partly dependent on the level of competence already achieved in the first language (L1) the more developed the first language, the easier it would be to develop the second language. A distinction was made between the surface fluency in social/interpersonal communication and the more evolved language skills associated with formal schooling and used as

an effective cognitive tool. Cummins (1984, 2000) characterized the early social communicative language skills of the child as the Basic Interpersonal Communicative Skill (BICS) and the skill that develops slowly at the beginning with the rate of development accelerated through formal literacy activities, the Cognitive/ Academic Language Proficiency (CALP). Since there is a common underlying proficiency across languages, academic concepts once acquired in a sufficiently developed language, take lesser time to be acquired in a newer language, provided sufficient exposure is given to it.

To the extent that instruction in L_x is effective in promoting proficiency in L_x, transfer of this proficiency to L_y will occur provided there is adequate exposure to L_y (either in school or environment) and adequate motivation to learn L_y. (Cummins, 1981: 29).

According to this theory, a child on entering grade I has a well developed BICS in the mother tongue. While this skill is adequate for the child to participate in non-academic or context embedded conversations, formal school education demands an advanced (coded, according to Bernstein) language for engagement with academic discourse. It takes considerable classroom exposure (speaking, listening, reading and writing) and time for the CALP to develop. A minimum of five years of exposure to the language (in which the child has already acquired conversational fluency) is suggested by Cummins (2001). Whereas it may take a child one or more years to acquire context-embedded second language fluency (conversational fluency), development of context reduced fluency, which is necessary for academic learning, may take five to seven years (Cummins, 1981, 2000). The model of MLE adopted in Andhra Pradesh and Odisha seems to have followed this theoretical framework: except that the specific plan involves early transition between languages without allowing for sufficient time for CALP to develop in the MT before bringing in formal literacy instruction in L₂.

As pointed out earlier, currently MLE imple-

menting states are considering up scaling the programme to more schools and in more languages. Other states like Chhattisgarh and Jharkhand plan similar initiatives. NMRC therefore sought to study the existing MLE programmes and reflect on the strengths and limitations of the programme. In July 2009, in keeping with the aforementioned objective, NMRC began a longitudinal research study in the MLE practising states of Odisha and Andhra Pradesh. The research aimed at studying the impact of MLE programmes on children's learning achievement along with the attitudes of the teachers and community towards the local language/s, culture and their role in education.

Research Objectives & Design

The main objectives of the research were:

1. To compare the scholastic achievement of children in MLE schools with that of the children in non-MLE schools in the subject areas of Maths, EVS and Language in order to identify areas of improvement in school learning and pedagogical practices which support such learning.
2. To compare the metalinguistic skills of students in MLE and non-MLE schools to show how does language of instruction affect children's control of their thought.
3. To study the effect of mother tongue medium teaching and inclusion of child's culture in MLE classrooms on (a) teachers' perception of tribal children, their language and culture, (b) attitude of parents and community towards children's education, the role of their language and culture, their sense of identity and attitude towards linguistic-cultural maintenance.

In light of these objectives, a longitudinal research spanning over the last three years was designed. Adivasi Oriya (AO) and Konda languages were selected for Andhra Pradesh and Saora and Kissan languages were selected for Odisha; the languages were selected by a random sampling from among the languages

in which MLE programmes were being implemented in the two states. Blocks were identified in the two states where these languages are used in the MLE programmes and sixteen schools (eight MLE and eight non-MLE) were

selected from these identified blocks with two MLE and 2 non-MLE schools selected from each block by a random sampling method. The list of schools is presented in table 1 below.

For the purpose of the study, grade appropri-

Table I: List of MLE and non-MLE schools selected for the purpose of the study

State	Language Area (Mother tongue of 90% and above)	Block (District)	School type	Name of School
Andhra Pradesh	Adivasi Odia	Araku Valley (Vishakhapatnam district)	MLE	1. One School in Dalapathiguda 2. One School in Hattaguda
			Non MLE	3. One School in Sunkarametta 4. One School in Kothaballuguda
	Konda	Paderu & Hukumpetta (Vishakhapatnam district)	MLE	5. One School in Modaputtu 6. One School in Cheedimetta
			Non MLE	7. One School in Jeelugulaputtu 8. One School in Thadiputtu
Odisha	Saora	Guma (Gajapati)	MLE	1. One School in Tarigi 2. One School in Lingda
			Non MLE	3. One School in Pandrung 4. One School in Kutam
	Kissan	Kuchinda (Sambalpur)	MLE	5. One School in Thainal 6. One School in Lassa
			Non MLE	7. One School in Chandanimal 8. One School in Madan Mohanpur

ate measures of classroom achievement in subject areas of mathematics, EVS and language proficiency (including metalinguistic skills) were developed in these four tribal languages. Measures of teacher attitude and community opinions along with checklists for classroom observations were also developed for the study based on earlier studies by the Principal Investigators of this project. The measures were revised based on the analysis of a pilot study conducted in September 2009. Subsequently, data have been collected for five time series between December 2009 and April 2011. While the learning achievement

tests were administered to the students of grades I – III during the field visits for time series I to V¹, interviews based on the schedules prepared were conducted with the community and the teachers to study their attitude and perception in respect of use of mother tongue as a medium of instruction in primary schooling. Detailed observations of the school and classroom were also recorded. The data obtained were analysed using statistical tools like MANOVA and ANOVA as well as qualitative analytical tool like content analysis.

¹Since the study took cross-sectional samples from grades 1, 2 and 3, tested over a longitudinal time frame, the research design is more appropriately a cross-sequential one. However, we have called this a longitudinal study in keeping with the more popular understanding of research of this type.

RESEARCH FINDINGS

The community, school and the classroom form the milieu in which the classroom transactions are located. It is, therefore, necessary to examine the ecological profiles of these aspects of the context of the schools taken up for the study.

Community Profile

In both states, the MLE and non-MLE schools selected for the study were located in regions that had 90-100 percent tribal population. The socio-economic conditions of the tribes were found to be largely comparable across the two states. While cultivation was a uniformly dominant occupation of the communities around the schools across the two states, several tribes from Kuchinda block (Sambalpur district) and Guma block (Gajapati district) in Odisha had members who had migrated to other states as daily wage labourers. The block wise average annual income of the families varied from Rs. 9415.62/- in Hukumpetta and Paderu (Andhra Pradesh) to Rs. 16332/- in Kuchinda (Odisha). However, despite the comparability in occupation and income, certain differences particularly with respect to regional development and linguistic exposure were noted in both the states.

In Andhra Pradesh, Hukumpetta and Paderu blocks have witnessed little infrastructural development in terms of roads, availability of power and access to health care facilities. Araku Valley block has considerably better infrastructural development owing to its projection as a tourist destination. While cultivation continues to be the dominant occupation, people in Araku Valley region have also found alternative avenues of employment in the tourism industry. Due to the regular tourist inflow along with the fact that Araku Valley is located on the border of Andhra Pradesh and Odisha, tribes in this region have better exposure to other lan-

guages like Telugu, Odia, Hindi and English. The differential development in Araku Valley vis-a-vis Humkumpetta and Paderu is also reflected in the infrastructure of the schools located in these blocks. While schools across the two blocks were found to be severely limited in infrastructure with no school having more than three rooms, the state of schools in Araku Valley in terms of availability of adequate physical space, availability of teaching learning material, teacher-student ratio and even enrolment of students, was considerably better than the schools in Hukumpetta and Paderu.

As in case of Andhra Pradesh, in Odisha too, difference in degree of development was noticeable in the two blocks with the same being marginally better in Kuchinda vis-a-vis Guma. However in terms of linguistic exposure, tribes from both the blocks had some exposure to Odia and languages like Hindi and English due to migratory nature of employment of some.

School Profile

The percentage of tribal students in the selected schools ranged from 97.3 to 100 percent in Andhra Pradesh and 90.32 to 100 percent in Odisha. In fact 12 out of 16 schools comprised of 100 percent tribal students. 14 of the schools in the study had classes up to Grade V and two up to grade VII.

None of the schools had adequate number of classrooms with average number ranging from two to three. Students from more than one grade had to be accommodated in a single classroom. The average number of teachers per school was three in both the states. The ratio of regular teachers and the para teachers¹ in MLE and non-MLE schools varied across the two states. In Andhra Pradesh, compared to para teachers, the number of regular teachers was higher in non-MLE schools whereas the situation was the opposite in Odisha (see table II).

¹Referred to as 'Vidya Volunteers' in Andhra Pradesh and 'Shiksha Sahayak' in Odisha

Table II: Distribution of regular and para teachers in MLE and non-MLE schools

Type of School	Total no. of teachers		No. of regular teachers		No. of para teachers	
	AP	Odisha	AP	Odisha	AP	Odisha
Non MLE	15	12	10	7	5	5
MLE	11	14	6	9	5	5

Mid-day meals were provided in all sixteen schools. Facilities like playground, separate toilets for girls and boys, provision for drinking water and a staff room for teachers were absent in most schools in both the states. While block or district wise differences were not very conspicuous among the schools across Odisha, in Andhra Pradesh, a clear difference in infrastructure could be observed between schools in Araku Valley and the schools in Hukumpetta and Paderu.

Classroom Arrangement

There was very little difference in the way MLE and non-MLE classrooms used empty spaces like walls or the corners of the classrooms. For instance, barring the two non-MLE schools in Hukumpetta block of Andhra Pradesh, a wall full of informative visuals in the form of crowded charts and

loud wall paintings were found in both the kinds of schools. While the themes such as animals, birds, useful plants, multiplication tables, alphabet charts and body parts were consistent across the school type, the major difference was in the language used. The classroom walls of MLE schools in Odisha stood out for their colourful portrayal of the local tribal people and their culture. The MLE classrooms had 10 big charts containing theme webs which were actually meant for the teachers. Presence of these complex 10 big schematic charts covering one full side of the classroom walls was making the classroom semiotically less child friendly. The overcrowding of the walls with incomprehensible schematic diagrams and texts for the children created an unfriendly and unfamiliar environment for the children.



Pic 1: Wall paintings depicting local culture in an MLE school in Kuchinda Block of Odisha

Another theme that was conspicuous on the classroom walls across the states and the school types was of 'national integration' and 'nationalism'. A major area of the classroom

walls was devoted to pictures of national leaders and symbols. Garlanded picture of 'Mother India' was also found in several classrooms.



Pic. 2: Wall painting of National Leaders & Garlanded picture of 'Mother India' in classroom wall in Orisha and Andhra Pradesh

Beside a marked absence of the local culture on most classroom walls, a notable feature on the classroom walls across the schools was extensive use of wall paintings over charts. Further, most of the charts were printed ones; very few were handmade. These paintings and charts had no relationship with the children's world of imagination and there were just a part of the classroom walls.

The MLE TLM available in both the states comprised of alphabet charts, number charts, story books, flash cards, big book, small books and glossaries, all prepared in local tribal language which was used as the medium of

instruction in the school. In some schools with smaller classrooms these materials had been placed in cupboards or racks; in other schools they were displayed in one or more corners of the classroom. The TLM available in the non-MLE schools of Araku Valley block included the Telugu version of the 'Activity Based Learning Material' (ABL material) developed initially for Tamil speakers in Tamil Nadu.

In the sample classrooms across the two states, the seating arrangement was found to be fairly constrained by the limited space available for the children. As such, there was little variation in this respect.

On an average, two to three grades were accommodated in a single classroom with at least one grade taught in the verandah. Fixed or flexible seating arrangements have their own dynamics in imposing or relaxing teacher-student hierarchy and also in limiting or allowing movements - both physical and perceptual. Both MLE and non-MLE classrooms had children sitting in small groups. In each room, the students were made to sit in two-three separate groups based on their grades. The groups were seated either on the two different sides of the classroom i.e. right and left, or at the front and the back. In case of the later arrangement, the group seated in the

front was the one with which the teacher directly interacted while the one seated at the back was assigned reading or writing tasks. However the method of teaching followed was not based on a multigrade system of learning where children are grouped according to their evolving understanding. During most classroom observations it was noted that there was no movement by the teacher across groups, rather the teacher focused on one specific group while the others remained out of his/her area of engagement.

STATISTICAL ANALYSIS

This study was carried out in Andhra Pradesh and Odisha over a period of 2 years during which, besides the pilot test, five repeated sets of assessment were undertaken. It is to be noted that for this report the timeframes would be addressed as T1, T2, T3 and so on. T1 and T2 data were collected in December 2009 and March 2010, respectively, and both the timeframes fell in the same academic year. T3, T4 and T5 assessments were undertaken in the next academic year. This fact has to be kept in mind while analysing and interpreting the data.

Andhra Pradesh Findings

Findings in respect of the Language proficiency measure across all the time frames suggested that the mother tongue based education had a significant effect on children's classroom achievement. In T1 (F 1,119=7.62, $p<0.01$), T3 (F 1, 178=44.85, $p<0.01$), T4 (F 1, 152=116.04, $p<0.01$) and T5 (F 1,170=124.34, $p<0.01$) significant differences were found between MLE and non-

MLE schools with MLE school children performing significantly better. In none of the different timeframes, the interaction between school type and grades was found to be significant. This meant that the effect of school type was uniform across the grades. In T1, T3 and T5 an increasing trend in performance was found in case of MLE schools. MLE schools children's performance gradually increased over the higher grades.

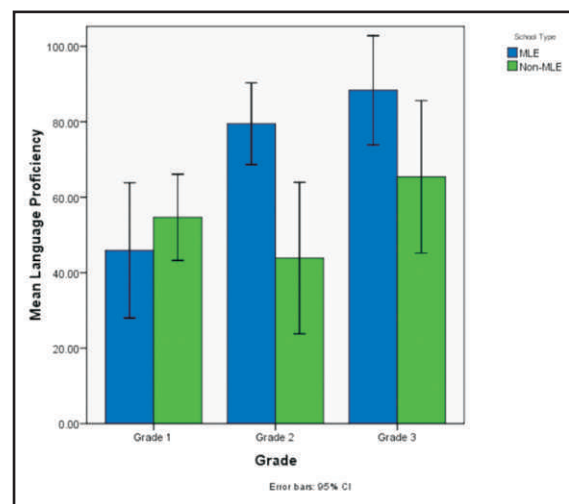


Figure 1-T1 Language Proficiency Mean Score

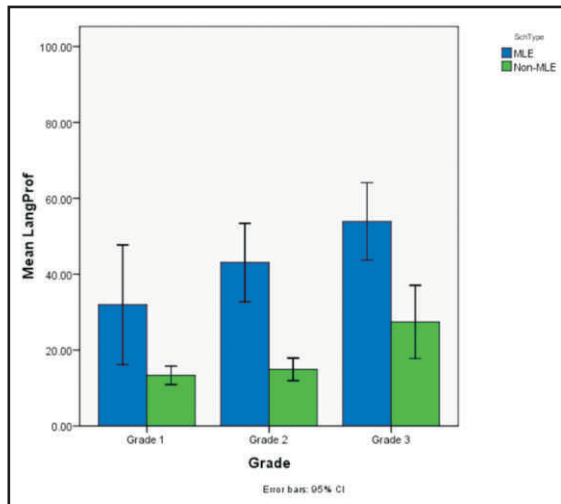


Figure 2-T3 Language Proficiency Mean Score

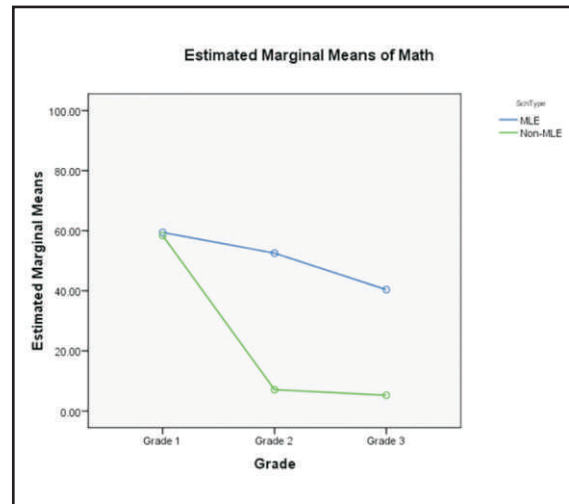


Figure 4- T2 School Type X Grade Interaction (Maths)

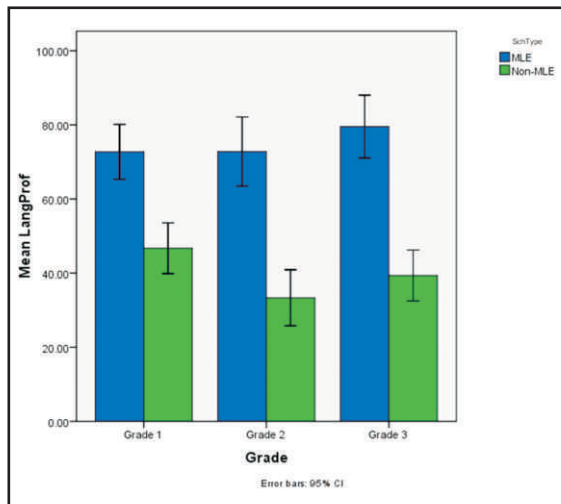


Figure 3-T5 Language Proficiency Mean Score

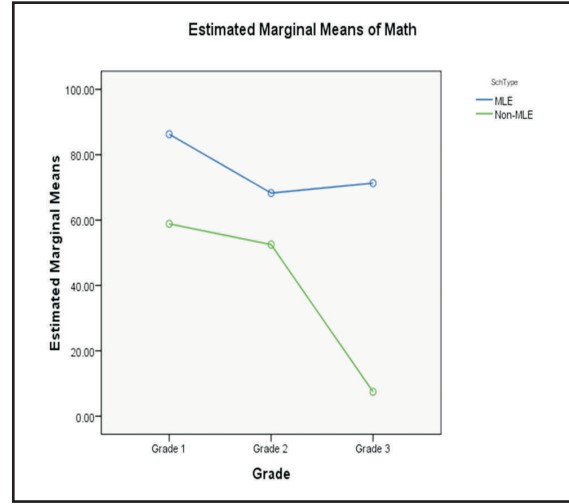


Figure 5- T5 School Type X Grade Interaction (Maths)

In Mathematics measure, in all the five time frames the children in MLE schools performed better than the non-MLE schools. ANOVA confirmed that MLE children performed significantly better than non-MLE children in all the timeframes; T1 ($F_{1, 119}=11.64, p<0.01$), T2 ($F_{1, 172}=45.14, p<0.01$), T3 ($F_{1, 178}=17.20, p<0.01$), T4 ($F_{1, 152}=118.75, p<0.01$) and T5 ($F_{1, 170}=152.17, p<0.01$). However, only in T2 and T5, the effect of interaction between school type and grade was found to be significant.

The findings in respect of these two time frames showed that the difference between

MLE and non-MLE children was not uniform across the grades.

Figures 4 and 5 show that the difference between the performance of children in MLE and non-MLE schools widened in the higher grades but it was not uniform across the grades.

The findings of T1, T3, T4 and T5 studies in Andhra Pradesh clearly suggested that when a child is taught in her mother tongue, she is able to develop a better conceptual understanding of the school subjects. This is evident from the results for Mathematics test.

In EVS, the MLE and non-MLE children were found to be performing at a comparable level in grade 1. But the gap between the two school-type groups widened over the Grades. In all the timeframe, T1 (F 1, 119=25.63, $p<0.01$), T2 (F 1, 172=43.16, $p<0.01$), T3 (F 1, 178=35.34, $p<0.01$), T4 (F 1, 152=24.58, $p<0.01$) and T5 (F 1, 170=84.20, $p<0.01$), MLE children's performance was significantly better than their non-MLE counterparts. School type X grade interaction was significant in T1, T2 and T3, showing that

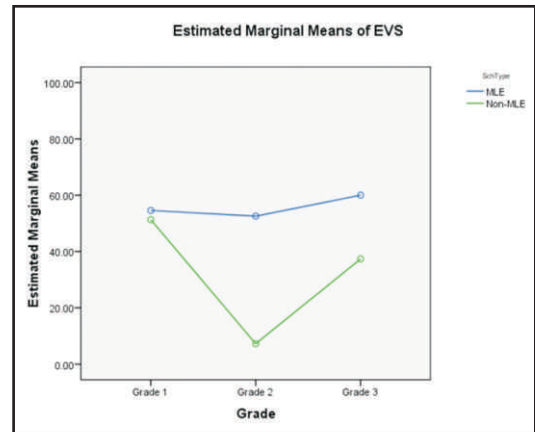


Figure 8- T3 School Type X Grade Interaction (EVS)

the difference in EVS scores of MLE and non-MLE children widened over grades. In grade 1, the difference between MLE and non-MLE children was minimal and the gap became wider in the higher grades.

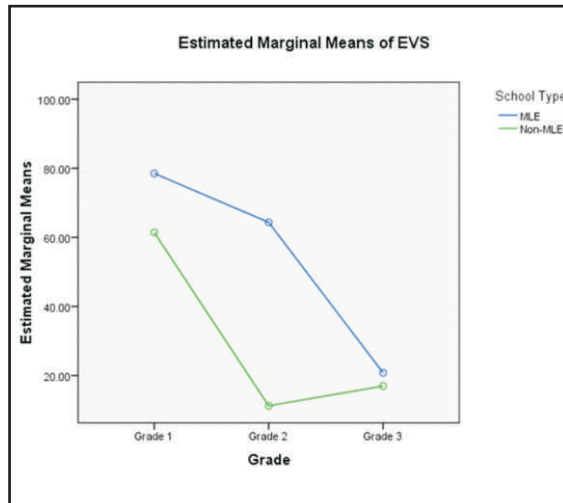


Figure 6-T1 School Type X Grade Interaction (EVS)

The analysis of the Metalinguistic tests showed that In T2 and T3 there was no significant difference between MLE and non-MLE schools. In T1(F 1, 119=9.3, $p<0.01$), T4 (F 1, 152=45.72, $p<0.01$)and T5(F 1, 170=54.34, $p<0.01$)MLE schools children performed significantly better than non-MLE school children in Metalinguistic ability measurement test. The interaction between school type and grade was found to be significant in T1 and T3.

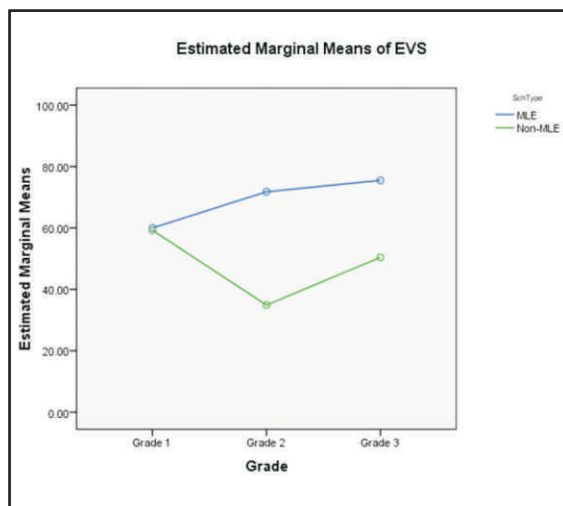


Figure 7- T2 School Type X Grade Interaction (EVS)

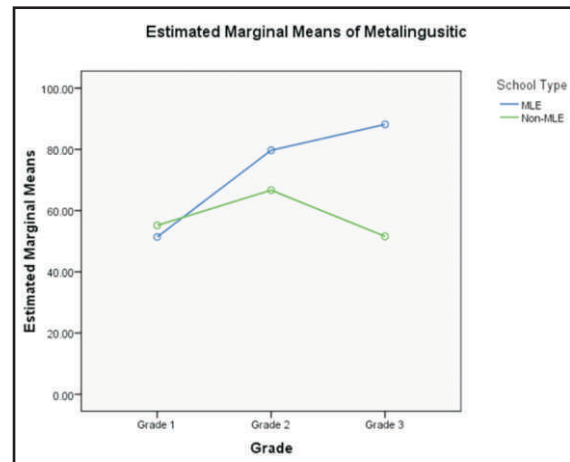


Figure 9- T1 School Type X Grade Interaction (Metalinguistic Ability)

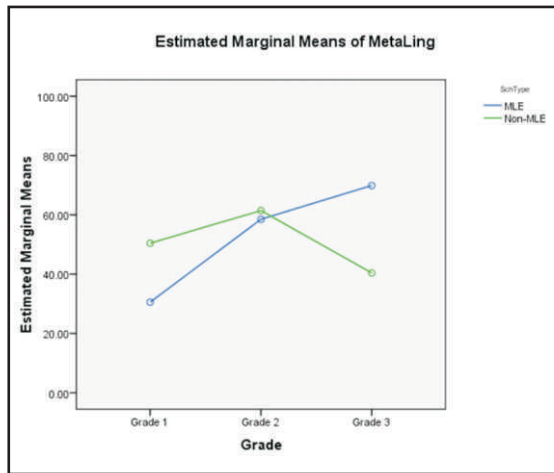


Figure 10- T3School Type X Grade Interaction (Metalinguistic Ability)

Odisha Findings

The longitudinal study in Odisha broadly confirmed to the major findings in Andhra Pradesh although there were some state specific differences. In the Odisha study language proficiency measure in T1 ($F(1, 98) = 12.74, p < 0.01$) showed significant effect of school type; MLE children out-performed their non-MLE counterparts in all the three grades. Further the performance increased in the higher grades.

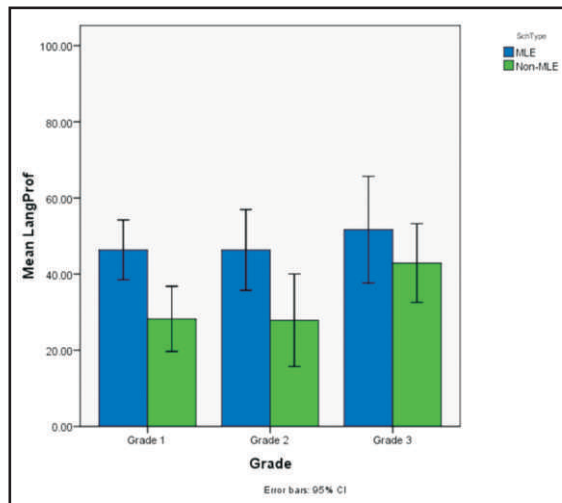


Figure 11-T1 Language Proficiency Mean Score

School type effect was found to be significant in T1 whereas the effect of interaction between school type and grades was not significant. It suggests that the difference between MLE and non-MLE remained uniform across the grades. It further suggests that mother tongue

based education has a significant effect on children's classroom achievement in language proficiency. However, T2, T3, T4 and T5 studies did not show any significant difference between MLE and non-MLE schools.

In mathematics, out of the five timeframes, in only T2 and T3, the effect of school type on children's achievement was found to be significant; T2 ($F(1, 151) = 10.13, p < 0.01$) and T3 ($F(1, 208) = 5.28, p < 0.01$). The children from MLE schools performed significantly better

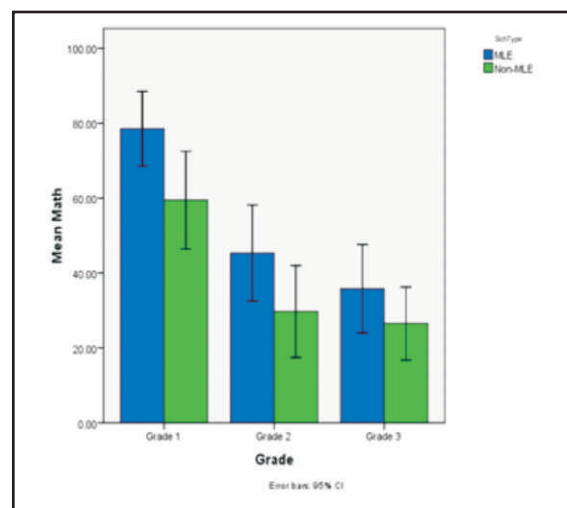


Figure 12- T2 Mathematics Mean Score

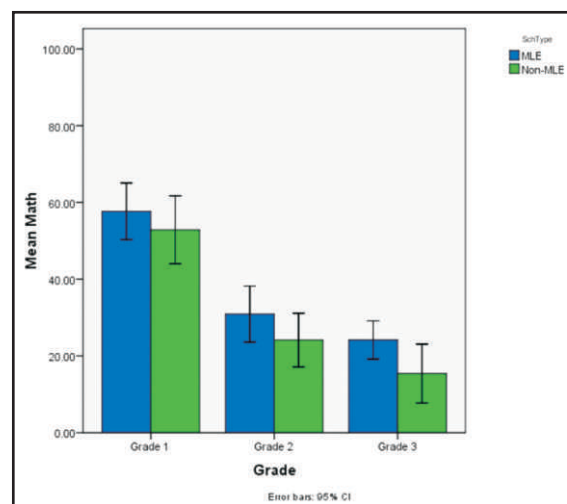


Figure 13- T3 Mathematics Mean Score

than those from non-MLE schools. In T2, the gap between MLE schools and non-MLE schools is wide whereas in T3 this gap gets reduced.

Also in both the timeframes, the performance decreased considerably in the higher grades.

In T2 and T3, the effects of school type and grade interaction were not significant. Thus the effect of multilingual education programme seems to be uniform across the grades and significant in respect of children's achievement in mathematics.

Analysis of EVS test scores showed that, in every alternative timeframe, the effect of school type on children's achievement was significant; T1(F 1, 98=11.94, p<0.01), T3(F 1, 208=13.67, p<0.01) and T5 (F 1, 188=7.6, p<0.01). MLE children performed significantly better than their counterparts in non-MLE schools.

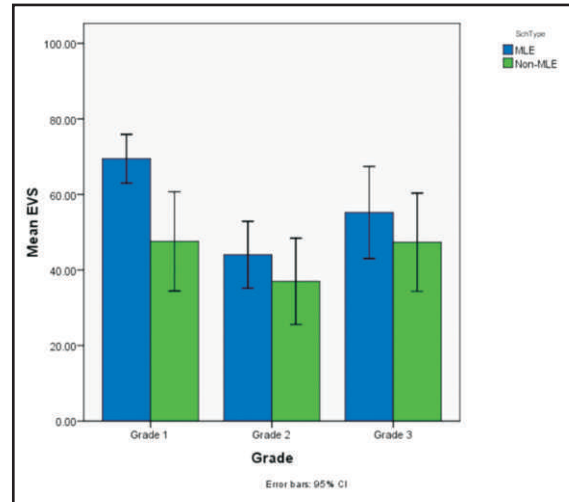


Figure 16- T5 EVS Mean Score

The effect of interaction of school type and grade was not significant. This shows the differences between MLE and non-MLE schools were uniform across the grades. In general, analysis of the findings in the different timeframes suggested that the MLE program had a significant effect on children's achievement in EVS. However in T2 and T4, the EVS performance differences between MLE and non-MLE groups were not found to be significant, although MLE children perform slightly better.

In Metalinguistic ability measure, MLE and non-MLE differences were not significant except in T5. In T5 (F 1, 188=15.89, p<0.01), MLE schools children performed significantly better than their counterparts non-MLE schools.

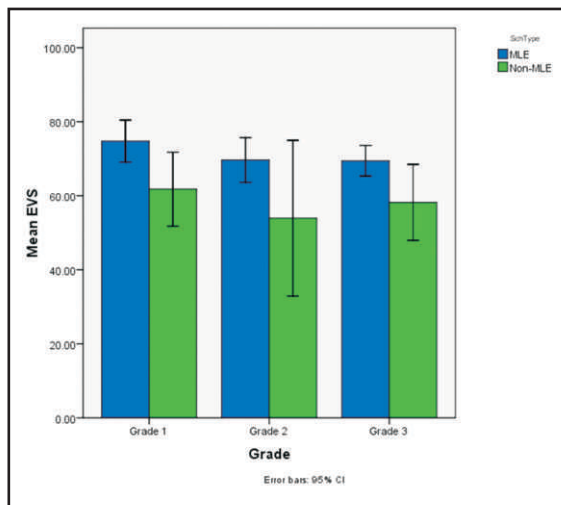


Figure 14- T1 EVS Mean Score

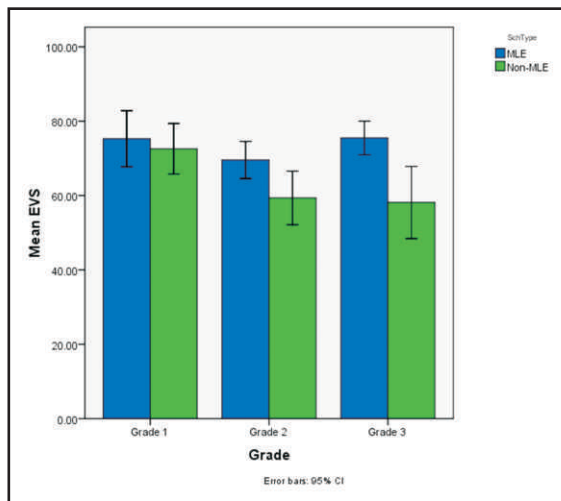


Figure 15- T3 EVS Mean Score

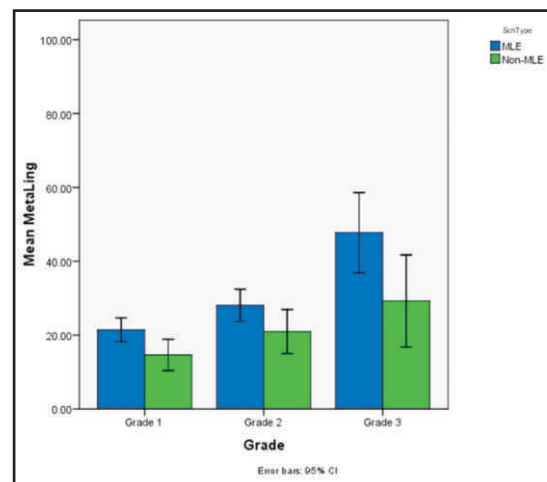


Figure 17- T5 Metalinguistic Ability Mean Score

The differences in the patterns of mean differences across the states can be partially explained by the observation that in Odisha, the supervisor had reported that when the test administrators (who were taken from the respective tribal groups and, hence, knew the children's mother tongue) did not get any response from the children, they appreciated their difficulty and spoke in their mother tongue. Therefore, in T5 assessment, in non-MLE schools all the measures were administered in both children's mother tongue as well as in Odia to find out the impact of the language of testing on children's performance. In Language proficiency ($F_{1,168}=24.98, p<0.01$), Mathematics ($F_{1,168}=32.63, p<0.01$) and Metalinguistic ability ($F_{1,168}=37.23, p<0.01$) measures, significant difference was found between children's performance when they were tested in mother-tongue and in Odia. When children were given test in their mother tongue, they performed significantly better than when they were tested in Odia

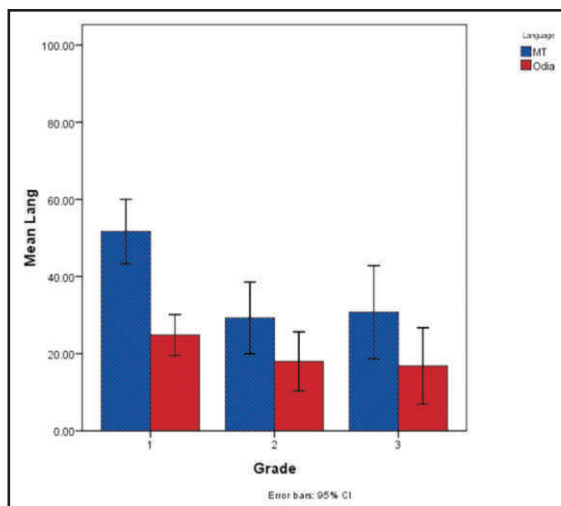


Figure 18- T5 Language proficiency Mean Score (Mother-tongue and Odia)

To sum up, the findings across the two states and five time frames, it can be pointed out that in case of both Andhra Pradesh and Odisha, the MLE children had better overall performance in all the objective measures of achievement taken together; MANOVA analyses for the state-specific data over the five time

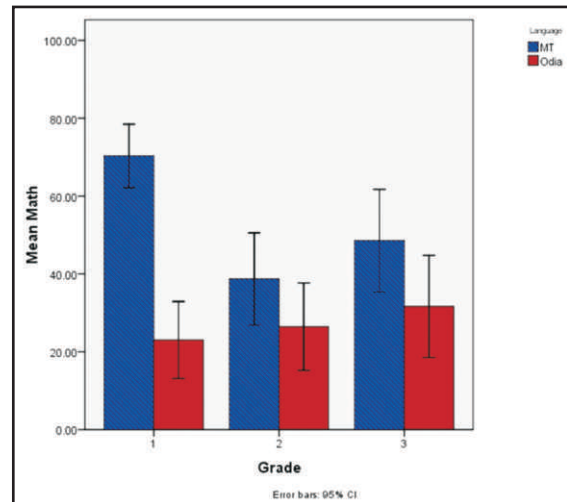


Figure 19- T5 Mathematics Mean Score (Mother-tongue and Odia)

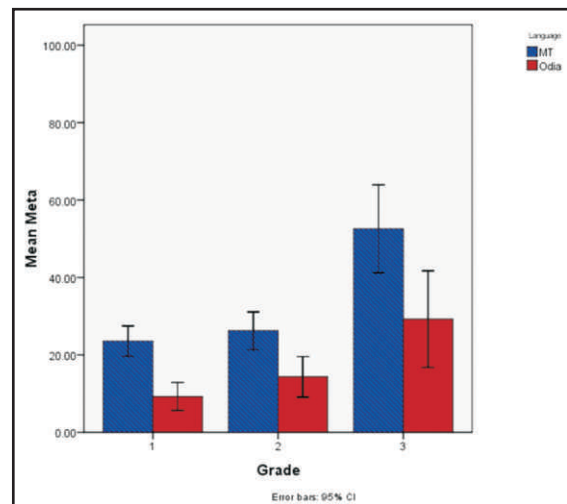


Figure 20- T5 Metalinguistic Ability Mean Score (Mother-tongue and Odia)

frames showed clearly that the performance of the MLE children was significantly better than that of their non-MLE counterparts when all the variables are taken together. MANOVA for Andhra Pradesh and Odisha data showed that for all the variables taken together effects of school type and grade were significant whereas the School Type x Grade interaction was significant only in case of Andhra Pradesh study.

Subsequent ANOVAs generally confirmed the trend. More specifically, the scores in Language proficiency test for all grades showed that the MLE children performed better than the non-MLE children. The perfor-

mance of MLE school children gradually increased in the higher grades, whereas the performance of non-MLE school children was not consistent. Analysis of Variance (ANOVA) confirmed that there was a significant difference between MLE and non-MLE children.

In the test of Mathematics, MLE children in both the states scored higher than their non-MLE counterparts. The difference was significant in case of Andhra Pradesh but not in Odisha study. Notably, there was a decline of Mathematics test performance from Grade 1 to Grade 2. This was found for the MLE and non-MLE children across the two states. It seems the basic mathematical notions that the children are exposed to in grade 1 remains rooted in children's experience and their cultural understandings of mathematical activities. However, as they move to higher grades, there seems to be a decalage between the school mathematical concepts and cultural notions with which children are familiar. The demands of school mathematics perhaps prove to be something that the children cannot cope with given our limited pedagogical practices.

In the measure of achievement in Environmental Studies (EVS) MLE children performed better than the non-MLE school children in all the grades and also across the

states. As in the mathematics measure, the level of performance, in some cases, dropped in higher grades in both MLE and non-MLE schools in Andhra Pradesh and Odisha. MLE school children's performance was significantly better than the non-MLE school children in the Andhra Pradesh study. Similarly, the main effect of grade and the grade X school type interaction were found to be significant for EVS scores in Andhra Pradesh but not in Odisha.

In Metalinguistic Awareness test in Andhra Pradesh, grade 1 non-MLE children performed better than the MLE school children. But in higher grades, MLE children performed better than their non-MLE counterparts. ANOVA of Metalinguistic ability scores showed that MLE schools children performed significantly better than non-MLE schools. However, significance of grade X school type interaction effect suggested that there was no uniformity in MLE and non-MLE performance differences across grades. The Odisha data for Metalinguistic ability measure showed that MLE children performed better than the non-MLE ones in all grades except in grade 2. However, ANOVA showed that the effect of school type was not significant; the grades main effect and the interaction were also not significant.

Impact of MLE on teacher's attitude towards children's mother tongue and cultural context

A formal learning set up in class is largely seen as being constituted of students, a teacher and a text. If all are seen as participants engaged in this joint endeavor, then it becomes imperative to view a teacher as a subjective being who brings something of her own to the classroom. In fact the role of teacher has also been recognized as being 'central' in teaching learning process in several policy and guiding documents such as the National Curricular Framework (NCF) 2005 and others. It logically follows that a teacher's attitude and assumptions will play an important role in determining or shaping

the classroom processes. One of the key objectives of the research was therefore to study the impact of MLE on teachers' attitude towards child's language, culture and the aims of education.

Before examining the impact of MLE on teacher's attitudes it would be useful to note the tribal/non-tribal teacher composition in the schools. All the non-MLE schools across the two states barring two non-MLE schools in Hukumpetta (Andhra Pradesh) comprised of 100 percent non-tribal teachers. In the MLE schools, there was a near 50-50 ratio between

tribal and non-tribal teachers with tribal teachers teaching early grade students and the non-tribal teachers teaching the higher grade students. In addition, with the exception of one non-MLE teacher in Araku Valley (Andhra Pradesh), none of the non-tribal teachers in either of the two states knew the local tribal language sufficiently to be able to use it in classrooms.

All the teachers across the school type were familiar with the MLE programmes. For them MLE involved, in simple terms, teaching tribal children in their mother tongue so that they understand and learn better in the schools. The impact of MLE on teacher's choice for Medium of Instruction in primary school was clear, as can be inferred from the table below:

Table III: Teacher's preference for MoI in primary school

Type of School	'Mother Tongue' ideal for teaching in early years of schooling		'Dominant State Language' ideal for teaching in early years of schooling		'Not sure'	
	AP	Odisha	AP	Odisha	AP	Odisha
MLE (n = 15)	6	8	0	0	0	1
Non MLE (n= 12)	2	6	3	0	0	1

All the MLE teachers interviewed (except one) expressed that mother tongue of the child was ideal medium of instruction at the primary level since it would help students relate better to what was being taught and also remove any fear and inhibitions that they might experience in the schools. A Saora MLE teacher from Odisha explained that, *"If the child is taught in his mother tongue, he becomes fearless and he develops a homely feeling at school and does not remain absent from the school"*. However the views of the teachers teaching in non-MLE schools ranged from 'mother tongue being the ideal medium' to 'mother tongue being a hindrance in progress'. In fact one of the non tribal teachers in a non-MLE school in Andhra Pradesh who was well versed with the local language emphasised the need to avoid using the same in school- *"I have been living in this area for the past twenty years, I know Adivasi Oriya, but if I start teaching the children in this language, they will not feel the necessity to learn Telugu, which is important,... even when they find it difficult to understand in Telugu, I don't talk to*

them in Adivasi Oriya, ...I instead use pictures and flash cards to make them understand".

The difference in the attitude of teachers towards the ideal MoI in early years of schooling could also be seen as linked to their assumptions regarding the role of mother tongue in facilitating or hindering the learning of the dominant language. As can be seen in the table below, while all the MLE teachers expressed that use of mother tongue in early years of schooling did not interfere with the learning of the second language, the opinion was divided among the non-MLE teachers.

In case of the non-MLE teachers, the division in opinion appeared to be strongly related to the states to which the teachers belonged. While none of the non-MLE teachers in Odisha viewed teaching through mother tongue as a hindrance towards learning the dominant state language, majority of the non-MLE teachers in Andhra Pradesh expressed the opposite view - *"...the tribal children are only exposed to their mother tongue at home. If we do the same in school how will they learn*

Table IV: Teacher's views on effect of use of MT on second language learning

Type of School	Use of MT in early years of schooling does not interfere with learning of second language (Telugu/Oriya)		Use of MT in early years of schooling interferes with learning of second language (Telugu/Oriya)		'Not sure'	
	AP	Odisha	AP	Odisha	AP	Odisha
MLE (n = 15)	6	9	0	0	0	1
Non MLE (n= 12)	2	5	3	0	0	2

Telugu? It is only if we increase their exposure to Telugu in school, will they be able to learn it, otherwise it will become difficult for them” (A non-MLE teacher from AP).

The teachers' responses were also observed to be linked to their perception of community's expectations vis-a-vis language learning (see table V).

Table V: Notions among teachers regarding parental preference for MoI

Type of School	Parents prefer 'Mother Tongue' used as MoI in early years of schooling		Parents prefer 'Dominant State Language' as MoI in early years of schooling		'Not sure'	
	AP	Odisha	AP	Odisha	AP	Odisha
MLE (n = 15)	3	8	3	0	0	1
Non MLE (n= 12)	2	2	3	3	0	2

Interestingly, while the teachers (majority from non-MLE schools) who had expressed reservations against the use of MT as MoI or the facilitating role of MT in learning the dominant state language argued that the parents too wanted their children to be taught in the dominant state language. Some of the MLE teachers, who had responded otherwise in favour of MT, also felt that the parents preferred the dominant state language as the MoI. The conflicts and tensions that existed in the community with respect to the use of language in school found an echo in the responses of the teachers. However, unlike the non-MLE teachers, who used parental apprehension as an argument against the use of local language, the MLE teachers appeared more convinced about the benefits of using MT. This perhaps helped them experience the tension without succumbing to its pressure.

A difference was also observed in the ability of teachers in MLE and non-MLE schools to use children's cultural resources as a pedagogic tool in the class despite both expressing their willingness to do so. Teachers in both the type of the schools recognized the importance of including a child's socio-cultural context in teaching learning process. However the non-tribal teachers in both MLE and non-MLE schools expressed that since they did not know the local language and were not well versed with the local culture, they were unable to include the same. Their use of local examples was restricted to reference to things found locally (birds, occupational tools, trees, etc.). Tribal teachers (in both MLE as well as non-MLE schools), because of their shared context, found it easier to draw from children's narrative, and material everyday contexts.

They scaffold children's learning frequently by using folk songs, dances, riddles and folk stories in their classes. The non-tribal teachers who taught in MLE schools shared that they often sought help of the tribal teachers to connect to children's everyday contexts while teaching abstract academic concepts. Interestingly, most of the non-tribal teachers in non-MLE schools, who shared that they understood the importance of local context but were constrained by their lack of knowledge, did not seek the help of older children or community members to overcome this gap. This difference among non-tribal teachers of MLE and non-MLE schools in translating willingness into a more productive process could perhaps be seen as a positive impact of MLE.

However, even as differences were observed in the MLE and non-MLE school teachers' attitude towards use of mother tongue and child's cultural and everyday context, their understanding of basic aims and premises of MLE was found to be similar. The teachers were unanimous in their opinion that the MT be used only as long as the child had not developed sufficient competence in the second language. According to both the groups, use of mother tongue was directed towards better learning of the second language; so as soon as the child learns to communicate in the second language, the medium of instruction should be the second language. Both the groups were minimally aware of the actual cognitive, academic and motivational gains of a strong multilingual competence.

Impact of MLE on teaching practices

The child-centered teaching learning process where the child is viewed as an active learner has been one of the central themes of the National Curriculum Framework (NCF) 2005 which has also guided the development of the MLE programmes in both Andhra Pradesh

and Odisha. The use of activities and teaching learning materials was promoted in both the types of schools in the two states. However, the quality, nature and the degree of the use of these activities differed across the school types in both the states.

The first major 'live' experience of difference in MLE and non-MLE schools was in the use of language during classroom transactions. While the local tribal languages were used widely in MLE schools (exclusively in grades I & II and in declining proportion in grades III) their use was found to be absent in six out of eight non-MLE schools. Some teachers in the two non-MLE Schools in the Konda speaking Hukumpetta block were the only ones who, despite Telugu being the medium of instruction, used some Konda while interacting with the students. The effect of usage versus non-usage of MT was seen in the degree of oral response of the students in the class. Students in MLE schools were found to talk considerably more with each other or with the teachers during class hours compared to their non-MLE school counterparts.

The impact of MLE was also evidenced in the choice of pedagogic practice and TLM and also in the differential use of the same. Firstly, teachers in non-MLE schools used lecture mode more often than the teachers in MLE schools. The inability of the non-MLE teachers to speak in the local language was found to considerably limit their ability to initiate and mediate classroom discussions. The MLE and non-MLE teachers differed in the ways they used the same activity or TLM. The non-MLE teachers were found more likely to demonstrate 'how to do an activity' as opposed to mediating an activity. For example, while using pebbles to teach addition, the non-MLE teachers often said aloud the operation and then picked up the corresponding quantity of pebbles and arranged them accordingly as part of a demonstrative activity rather than

explaining the concept and then encouraging the students to do the same. In MLE schools, teachers were more likely to use game-based activities which had more space for student-teacher and between-student interactions to teach similar concepts.

In non-MLE classrooms, the TLM used included the flash cards or alphabet and number charts. These were used for the purpose of 'reference' when the teacher felt that the students were unable to understand a

particular word in the dominant language. Materials like blocks or abacus where the teacher's role was required to be more of a collaborator and guide than of a demonstrator were rarely used. On the other hand, in MLE schools, teachers were found to use materials like story books, drawing materials and blocks more often in order to engage students and encourage more direct student participation in the task. The nature and the degree of student participation in MLE and non-MLE schools is presented in the table below:

Table VI: Ratings on classroom observation checklist on nature and degree of student participation

	Interaction with teachers (Avg. Rating obtained)	Interaction with other students (Avg. Rating obtained)	Student Enthusiasm (Avg. Rating obtained)	Overall student participation (Avg. Rating obtained)
MLE School (n=24)	'Quite Often'	'Sometimes'	'Sometimes'	'Good'
Non MLE School (n=24)	'Sometimes'	'Not so good'	'Sometimes'	'Not so good'

n: number of classrooms observed.

The impact of MLE was visible in the difference in use of local context during classroom transactions. The classroom observation data shows that very few references to the local context were made by the teachers in non-MLE schools. In the checklist on classroom observations filled by the field investigators, the rating ticked most often for 'Use of local context/culture' was 'Not so good' for non-MLE schools. In the examples noted for reference to the context, the most notable reference was to the local market during maths classes where the teacher posed word problems to students usually in the form of "Suppose you are going to the market to buy sweets...". As noted earlier, most of the teachers teaching in non-MLE schools were neither locals, nor tribals. There were seldom any reference made to the local festivals or stories. The teachers largely stuck to the examples mentioned in the state textbooks written in state language.

The majority of MLE classrooms across the two states received the rating of 'Good' on 'Use of local context in teaching'. The use of local songs, dances and stories were observed in greater frequency in MLE schools in Odisha than in Andhra Pradesh. In Andhra Pradesh, the reference to local context was limited to the one printed in the textbooks. In some MLE classrooms in Odisha, teachers were seen narrating local stories or asking local riddles which are not part of the MLE TLMs or the text books.

However the use of local everyday practices was limited to 'inclusion' of local art forms or stories in language or EVS classes. Use of everyday and local cultural practices for teaching mathematical concepts was very limited.

Table VII: Use of local context in classroom transactions

Item: Use of Local context in School (Folk/Local stories, rhymes, songs, examples, etc.)	Very Good 1	Good 2	Not so Good 3	Poor 4	Very Poor 5
MLE School (n=24)	-	18	6	-	-
Non MLE school (n=24)	-	8	16	-	-

Impact of MLE on Community's attitude

The boundaries demarcating the school and the community are often permeable allowing a bidirectional exchange. In fact, the role of community in the development and implementation of MLE programme has been widely highlighted in MLE related documents and reports of both Andhra Pradesh and Odisha¹. An overarching sentiment echoed by the parents across the two states and irrespective of the type of school their children went to was regarding the necessity to develop competence in the dominant state language. The access to the dominant state languages and languages like English and even Hindi was viewed as essential for a better future, in particular, better employment opportunities - *"They have to know Telugu in market, in streets and if they want jobs..."* (a parent in Araku Valley, Andhra Pradesh). Majority of the parents interviewed shared that, one of the most important tasks of the schools was to help children learn the dominant state language well so that the prospects for higher education and employment remain high. The community members were also unanimous in their recognition of the importance of their mother tongue, but they differed on the perceived nature of its importance as well as on the role of school to use and teach it. The difference in attitude was found to be related to both school type as well as the state to which the community belonged.

Parents whose children were going to the non-MLE schools and were generally disinterested argued strongly in favour of using dominant state language as the MoI in schools. While majority of the parents whose children were going to non-MLE schools were not aware of the existence of schools where tribal language was used as a medium of teaching, the few who were aware expressed severe apprehensions, such as - *"...maybe they will learn better (in MLE schools) but what will they do when they go to high school? How will they compete with others? How will they find jobs? Right now, it is difficult, but maybe it is good for future..."* (a parent in Guma block, Odisha). The parents, whose children were going to MLE schools, had a mixed opinion. The preference for MT based teaching was voiced more frequently in Odisha than in Andhra Pradesh. The parents whose children were going to MLE schools differed in their opinions on whether they supported MT based teaching in principle; they were unanimous in accepting that their children liked going to MLE schools as they understood what was taught to them. The different articulations vis-a-vis preference for a particular language medium of instruction and concern of their child's learning can be inferred from the following two statements:

"Our children are liking school, they talk in class and are bright. They will do fine. We also learnt Oriya, they will also learn... I do not worry. I am happy that he goes happily to

¹See MLE status reports on Andhra Pradesh and Odisha prepared by NMRC at http://www.nmrc-jnu.org/nmrc_publications.html for further references.

school” (A mother of child who goes to MLE School in Guma block, Odisha).

“My son is learning well but he speaks very little Oriya. I don't know if he will learn it well ever in the school”. (Another parent of a child going to MLE School in the same block.)

Among the parents who argued in favour MT in schools in Odisha, there were a few who, besides citing the ease in learning, also expressed that by teaching MT in school their children would never forget their language.

The debates among parents whose children were going to MLE schools were fiercer in Andhra Pradesh. Some parents argued that the only way to learn the dominant language better was getting more exposure to it in school- *“We speak Adivasi Oriya in our homes, the children speak to each other in Adivasi Oriya even in school, if the teachers also start speaking to them in Adivasi Oriya, when they will learn Telugu? If teaching Telugu is delayed then they will suffer.”* Parents who had other older children who had gone earlier to non-MLE schools were able to understand and appreciate the difference in the extent of learning that happened in MLE schools better.

The overriding concern among the parents regarding the need for their children to be well versed in the dominant state language and the internal tensions and conflicts that arise from the use of MT in schools may be seen as emerging from the larger socio-economic and political context where some languages are vested with more political and economic power vis-a-vis other languages giving rise to unequal power dynamics. Most of the parents interviewed viewed education as something that would help their children achieve perhaps a better socio-economic mobility as schooling provides them scholastic abilities as well as an access to state language-*“If he (his son) studies well then he can become anything...he has to be good in Odia so that he competes with other Odia students.... it is very difficult for people like us to become big, but the only possibility lies in education”* (A parent in Odisha).

Conclusion

Does children's mother tongue matter? Does it affect their scholastic achievement, the way they develop their general understanding of the world around them, the way they are educated in schools and, more importantly, the way they learn in these institutions of formal education? Does participation in MLE programmes change the attitude of teachers towards tribal children and their language? Does MLE change parents' perceptions and involvement in children education?

We administered objective measures of school learning in the curricular areas – Language, Mathematics and Environmental Studies (EVS) – over the two year period of repeated testing to understand how much does mother tongue based MLE contribute to educational outcomes for the tribal children. The finer picture that emerged showed some differences across the two states – Andhra Pradesh and Odisha and across the five time frames of the study. But the general findings were quite clear. MLE children performed better than their non-MLE counterparts in curricular areas of Mathematics, Language and EVS with very few exceptions and, significantly, the difference increased over the grades and time frames. The findings in respect of an abstract measure of metalinguistic ability were not consistent, although, invariably, this task was found to be much easier in MT than in the non-MT school language. As expected, in most cases, the difference between the two school types was non-significant or minimal at the point of entry into the schools in Grade I. And, it showed a widening gap between MLE and non-MLE children. This trend was much more conspicuous in Mathematics than in EVS. It is quite obvious that language (MT) makes a difference for understanding of school mathematics at the later grades. Differences in language were expected; children in non-MLE school, with their limited exposure to non-MT languages, struggled with Odia or Telugu as the medium of classroom teaching and texts, and, not surprisingly their performance in language (of schooling) subject

remained increasingly poorer compared to the MLE children. In fact, the language disadvantage of the non-MLE children was so evident that, in Odisha, failure to elicit any response from the younger children prompted our field investigators (who also were native speakers of the children's MT) to spontaneously switch to MT while administering the tests. This sympathetic twist in our 'research methodology' can explain why we got less clear picture in MLE – non-MLE comparison. This realization led to administration of the tests in non-MLE children's school language and MT (in a methodologically counterbalanced order) in our fifth round of testing (T5) in Odisha. It will not surprise any one that children performed significantly better when tested in their MT particularly in language proficiency, Mathematics and Metalinguistic ability measures, even when the school teaching was exclusively in Odia. On the whole, our quantitative analysis of children's performance in different school subjects as well as metalinguistic ability, did confirm the expected MT advantage in school learning and achievement as well as children's general abstract and conceptual understanding.

The observation and the interview data revealed a mixed picture so far as classroom organisation, seating arrangements and pedagogic practices are concerned. The MLE model of Andhra Pradesh and Odisha, being an early transition model, allowed use of children's mother tongue as medium of instruction till only class IV limiting the benefits of transfer of conceptual and linguistic knowledge from one language to the other. However, the major achievement of this programme lies in the use of children's language in the classroom by the teachers without any evident prejudices and creation of relatively more expanded zone of proximal development among these children. We found an enhanced participation through verbal contribution to the classroom discourse by the tribal children, which resulted in the partial decline of one-way lecture by the teachers in MLE classrooms. The intersubjective spaces

between children and the teachers in MLE classrooms were relatively more layered creating greater affordances of classroom discourses for scaffolding. The teaching in non-MLE classrooms was predominantly teacher centric. Our video data clearly shows impenetrable silence of non-MLE classrooms while the MLE classrooms were noisy, lively and engaging. The MLE and non-MLE teachers clearly differed in their use of activities; the non-MLE teachers tended to favour activities that were simply demonstrative whereas MLE teachers were found to use activities that involved active participation and contributions from the students. The MLE teachers were found to be more flexible and carried out conceptual talk using children's everyday experiences.

The MLE teachers favoured use of children's language as medium of instruction, while non-MLE teachers had a mixed opinion. The acceptance of MT among the non-MLE teachers in Odisha was higher than their Andhra counterparts partly because Odisha already had a discursive context for MLE as the state had taken up MLE initiatives along with attitudinal training during 1996-2000. These earlier activities, built on a continued and sustained debate among the teachers and educational administrators, seems to have created a ground for 2006 MLE programme in Odisha.

The MLE teachers in both the states viewed MT as a facilitator and not as a hindrance to second language learning. The non-MLE teachers in Andhra Pradesh did not support tribal languages as the language of schooling; they feared that this might retard the pace of learning Telugu among tribal children. In the case of non-MLE teachers, a strong relationship was found between their opinion on the use of children's MT and the community's views on this. Some MLE teachers in Odisha were aware of community apprehensions but did not change their position as they were convinced about the multiple affordances of children's language so far as classroom learning and teaching were

concerned. The positive impact of MLE was evident in the fact that non-tribal teachers teaching higher grades in MLE schools in regional language were sometime seeking help from Vidya volunteers for explaining difficult concepts in children's language.

The non-MLE teachers showed higher preference for flash cards, models and charts for classroom demonstration. Often, MLE teachers used interactive materials like storybooks, blocks along with flash cards and charts and created more give and take between students and materials. Though they did not succeed very well in creating relatively complex intertwined classroom discourse, they did make use of artifactual knowledge of tribal communities like music, dance, art, local number systems etc. more frequently than the non-MLE teachers. This is partly because MLE programme was founded on this understanding of the need for use of children's everyday experiences in classroom. The students in MLE schools were found to be relatively more fearless and had higher participation in classroom and sports activities.

The dominant sentiment of the tribal communities was a pragmatic targeting development of children's competence in the state language in both the states. However, because of MLE experience, many parents were changing their views and were favoring the decision that early education should be done in children's mother tongue. Parents whose children go to MLE schools were considerably more satisfied with their children's learning in school though they continued to have some anxiety towards late introduction of regional language in this new curriculum.

The difference in the nature of use of wall spaces between MLE and non-MLE schools was minimal. The use of wall as a communicative space can in their own ways limit or create possibilities. Unimaginative use of wall spaces by the pictures of 'national integration', 'theme of nationalism', garlanded

picture of 'Mother India' etc. failed to open new channels of pedagogic transaction inside the classroom. Absence of any tribal leader, artist or patriot's pictures raised questions about the non-representation of tribals in the dominant representations of socially constructed national identity in the classrooms. Moreover, these paintings being a permanent part of classroom walls foreclosed possibilities for scaffolding children's learning and interaction in both the schools. The only positive difference found between MLE and non-MLE schools was in the use of language in the charts and other wall hangings. In MLE schools, the charts are written in tribal languages whereas in non-MLE schools, the charts used in even class I were in regional language. Some of the paintings in the MLE classroom in Odisha had tribal themes.

Clearly, Andhra and Odisha models of MLE are not tests of Cummin's theoretical model as, in both the states, children were forced to transit to the dominant regional language much before they fully acquired the conceptual and theoretical tools and discourses in their mother tongue. This was evident in significantly reduced use of children's mother tongue in class III. The limitations of an early exit programme are many. Empirical research evidence is emphatically in favour of a late exit program of MLE. Recent analysis of different forms of transition from MT to major languages in Ethiopian education (Heugh & Skutnabb-Kangas, 2010) clearly shows that MTs need to be continued at least for six to eight years in school programmes for better academic achievement in school subjects and, quite significantly, also in English as a major international language. The longer a child is allowed to continue with the MT, the better are the chances of her success in school learning. It may appear to be counter-intuitive to suggest that children's MT should be strengthened and continued longer for them to achieve higher levels of multilingual competence in different languages including major national and international languages

(such as Odia/Telugu, Hindi and English). But theoretically and empirically, this has been shown in several studies to be happening beyond doubt; we know enough by now from the theory and practice of bilingual and multilingual education to appreciate why and how is this transfer from MT is possible and effective. Apart from enabling successful transfer between languages, MTs play a critical role in strengthening children's cultural identity and sense of pride and self-efficacy (Panda & Mohanty, 2009), which are essential elements of quality education. It is time that our teachers, educators and policy makers realize the enabling and empowering roles of strong MT development for better education. Our teachers, educators and educational decision makers seem to be in a hurry for transition to the regional and major languages. It is time that the decisions and passions are informed by compelling evidences from research and practice.

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NMRC ACTIVITIES

Longitudinal study

- **Longitudinal Study Report:** After the collection of data for Timelines 4 and 5 in January and April, 2011, the longitudinal study report for the five timelines was prepared. The main features of the report include a brief introduction of the MLE programs in the two states, an outline of the research design, quantitative analysis of the data with the help of necessary graphs and tables and the qualitative analysis of school ecology, classroom practices, and the community and teachers' attitude towards MLE. The findings of the longitudinal study were shared with advisory and steering committee members for their suggestions and feedback and the final report is in print.
- **Revision and development of tools for longitudinal study:** Since MLE has been extended to class IV in Odisha and class V in Andhra Pradesh, a 4 day workshop was conducted in Bhubaneswar with teams from Odisha and AP, in the month of July,

2011. New test items were developed in this workshop for grades IV and V in 6 languages (Odia, Saora, Kissan, Telugu, Konda and Adivasi Oriya).

MLE policy advocacy & initiatives

Analysis of Policy Documents :

In the second phase, NMRC has undertaken a review of policy documents and policy texts to examine how language, school education and pedagogic issues have been dealt with in these documents. The following documents were analyzed individually by the NMRC team.

- i. National Knowledge Commission: Report to the Nation (2009)
- ii. National Policy on Education (1986, as modified in 1992)
- iii. National Focus Group Position Paper on Teaching of Indian Languages (NCF 2005)
- iv. Macaulay's Minutes of 1835

At the first level, the analysis involved critical analysis of the major objectives, agenda and ideological commitments of the documents in the area of school education, language, identity, and pedagogy.

• Production of MLE Resource Materials

NMRC team prepared a strategy plan for production of MLE resource materials (early readers) in expert consultation with the artist and writer, Jatin Das. A team of two writers and one artist has been identified to work on early readers in Saora and Kui languages.

• Development of Mathematics Pedagogy for MLE

For the purpose of development of Mathematics Pedagogy for MLE, a maths expert, Mr. S. R. Dash has undertaken an ethnographic study in Saora and Kondh communities.

NMRC NEWS

- Prof. Ajit K. Mohanty attended the Fourth International Conference on Bilingualism and Bilingual Education organized by BilingLatAm in Mexico, Oaxaca, Mexico, June 29 - July 2 this year and delivered an Invited Keynote Address "**From Bilingual to Multilingual Education: Limits, Challenges and Insights from Linguistically Diverse Societies**".
- Dr. Minati Panda attended the Fourth Congress of International Society for Cultural Activity Research held in Rome, Italy from 5-10 September 2011 and presented a paper on "**Cultures, Discursive Practices and Pedagogic Work in Families: Why is Mathematics so Important to some Immigrant Communities in UK?**".
- **A collaborative bilingual project with Eklavya, Bhopal and Prof. Ramakant Agnihotri** in select schools of Bhopal is underway. One day workshop was organised in JNU with Ramakant Agnihotri, Anjali Naronha and the NMRC team on 11th August 2011 in order to develop a work plan and a reading list for this programme. Two part time Research Associates, Ms. Indrani Roy and Ms. Neha Agarwal have been employed for this work.

National Multilingual Education Resource Consortium (NMRC)

Zakir Husain Centre for Educational Studies
School of Social Sciences—II
Jawaharlal Nehru University
New Delhi—110 067
Phone: 011-26704419
Fax: 011-26704192
E-mail: nmrc_zhces_jnu@nmrc-jnu.org
URL: www.nmrc-jnu.org
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