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Summary

Approximately one year since its conception, on 29th April 2017 the Maharashtra In-Service Teacher Resource Application was launched by Maharashtra Education Minister Sri Vinod Tawde.

Within 6 months of the launch, MITRA has been downloaded and used by close to 85,000 teachers across Maharashtra.

Over the course of these 6 months the LFE team has conducted multiple field visits called ‘MITRA Yatras’ across the state in an attempt to widen the reach and impact of MITRA while simultaneously getting feedback from stakeholders on the ground to continue evolving and improving the MITRA feature set.

This report captures the activities undertaken by the LFE- MITRA team over the course of last 6 months.
Introduction

Broadly the LFE team has worked on 3 main verticals over the course of the past 6 months

Product:

After the launch of MITRA the team has worked on integrating the MITRA platform with the upcoming National Teacher Platform - DIKSHA. The product team has been providing feedback to the NTP team on Maharashtra’s needs and expectation of MITRA 2.0 on DIKSHA

Outreach:

Outreach has been the core component of focus in the past 6 months. The team has spent considerable amount of time on the field visiting districts across Maharashtra meeting various stakeholders and documenting their observations

Content:

After a successful content workshop in March and the curation of around 3,000 content pieces the team has tried to focus on setting up processes and structures to improve quality of content being produced. A full time resource for content has been hired in September, 2017 to oversee all content related activities. All content from MITRA is currently being uploaded onto DIKSHA
Product

In its initial offering MITRA has 4 main features:

Teaching Aids: For the teachers by the teachers. These are videos and interactive material that have been created by government school teachers in Maharashtra using EkStep’s open source software infrastructure.

Self Learning Content: These are mostly professionally created content that has been curated by the MAA for teachers professional development. These are short videos on pedagogy, classroom practices, activity based science experiments and self development.

Training Calendar: The Training calendar will allow teachers to view upcoming trainings that have been scheduled by the MAA. Teachers can choose to attend these training with a click of a button thus helping MAA gauge the demand for a particular training and plan accordingly.

News and Updates: Teachers can stay connected with the MAA and receive regular news letters, articles and academic updates on their phones through MITRA.

Usage Statistics

(30th April 2017 - 30th September 2017)

- 86,032 App downloads
- 31,000 Monthly Users
- 3m 9s Average session time per user
- 70% Content consumed are Teaching Aids (Student Content)
- 30% Content consumed are Self Learning videos
- 76% Users are male
MITRA YATRA

MITRA Yatra is an initiative to reach out to various stakeholders in the education domain across all 36 districts in Maharashtra. It is a 3 day visit by a team from Maharashtra Academic Authority, Pune to a selected district. The Yatra focuses primarily on interaction with teachers across various blocks in each districts.

The team also interacts with students, DIECPD Principal, DIECPD I.T officials, Education Officers, Block Education Officers, Kendra Pramukhs, Principals of Schools in that district.

Apart from resolving queries and collecting feedback regarding MITRA, this visit also provides the MAA with an opportunity to learn about ground realities in schools, collect feedback from a larger audience regarding various projects that were initiated by the Government as part of PSM and conduct training sessions for teachers as per their needs.

Need for MITRA Yatra:

As soon as MITRA was launched, it was widely accepted by teachers across the state. In order to keep improving MITRA to continue supporting teachers; it is crucial to give them a platform to voice their opinions about MITRA.

For teachers who are not aware about MITRA, this yatra serves as an excellent opportunity to make them aware about it. The feedback collected from teachers will help in making necessary changes in MITRA. School visits, interaction with government officials will give us insights on which areas in which district need more support to ensure children are getting excellent education.

The process of setting up a structure for redressal of teachers’ queries regarding technology can be initiated by the DIECPD IT officials. Feedback regarding other government initiatives like SARAL and MDM can also be gathered from teachers directly.

Objectives of MITRA Yatra:

1) Create awareness about MITRA and collect feedback from teachers regarding MITRA
2) Build a sense of possibility across stakeholders regarding effectiveness of technology in classroom
3) Assist teachers to build skills they feel are required to make the best possible use of technology
4) Visit schools in a district and understand ground realities about digital interventions for schools
5) Guide DIECPD IT officials to organise digital content creation workshops, support teachers to resolve their technology related queries

Reach of the MITRA Yatra
<table>
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<tr>
<th>District name</th>
<th>Talukas covered</th>
<th>Schools visited</th>
<th>Classrooms observed</th>
<th>Teachers reached through sessions/interactions</th>
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<td>148</td>
<td>380*</td>
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<td><strong>102</strong></td>
<td><strong>342</strong></td>
<td><strong>3436</strong></td>
</tr>
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*only small group sessions conducted*
Deconstructing the MITRA Yatra

School visits and Classroom Observations

Through school visits the team has been capturing teacher knowledge and mindsets on usage of technology, their readiness for tech adoption. The teachers are asked questions regarding school digital infrastructure and its use. Through lesson observations, the team is also getting insights into how digital resources are being integrated by teachers into their classroom teaching practices. The team is also noting down the various challenges faced by teachers in trying to use technology to teach. Through student interviews the team is capturing student access to technology both in school and out of school environments. Students engagement with technology is also captured through lesson observations. Some students are asked to demonstrate how to use the digital infrastructure in the classroom like TVs, Smart phone, tablets, laptop etc.
Teacher Interaction Sessions

The team has been interacting with teachers in two modes - Small group and Large group interactions.

Large Group Interactions
These are 2 ½ to 3 hour long sessions conducted with a large number of teachers approx 100-400 at a time. The sessions conducted include - MITRA walkthrough, Effective use of technology in the classroom, Tips and trick to help teachers in their day to day activities etc. A teacher discussion panel consisting of 5-6 tech savvy teachers from various blocks in the district is facilitated by the team to encourage peer to peer learning and problem solving. The large group sessions helps to team to reach out to a large number of teachers however the infrastructure requirements for such a session could be challenging to arrange in some talukas or districts.

Small group interactions
These are block level sessions of not more than 30-40 teachers per session. Generally after a team member visits a particular block in a district, a meeting of tech savvy teachers from across the various clusters in a block is held. Discussions are held around how MITRA can be used effectively. Teachers freely voice their opinions on various issues in relation to the digital movement. In many cases issues raised are resolved by the group itself. Local Best practices are shared. The teachers also participate in a design thinking challenge on the effective design of a digital classroom/ purchase of digital infrastructure based on the needs, constraints and objectives of every teacher.
Henceforth the team will focus on small group interactions over large groups sessions due to the personal nature of the small group interactions that has made it a more successful outreach strategy.

**Kendra Pramukh Training**

Kendra Pramukhs are a cadre that interfaces directly with teachers. All K.Ps have been teachers themselves and thus can play a crucial role in supporting teachers. There is a real need to update this cadre of ex teachers to become more tech savvy themselves in order to support teachers better and improve the efficiency of their work. The following sessions have been conducted with the KPs

- Discussion on “When can we say our school is digital”
- Sharing experiences of using technology in classroom - Learning from each other
- Various features of MITRA and upcoming changes in new version
- How to effectively use a video in classroom teaching
- Difference between online and offline storage of data
- Introduction to Google Drive and Google Form, their usage in day-to-day work of K.Ps

**Meeting with Local Bodies**

The District institutes for Continuous Professional Development (DIECPD) and Block Resource Centres play a crucial role in teacher professional development and support. They are also keyed into the general sentiment of teachers in their district/ block making their investment in the tech savvy movement essential.

The team meets the DIECPD Principal and Education Officer in every district that it visits to get a high level understanding of the various initiatives and work being undertaken by the district administration to improve student learning outcomes. Discussions around the role of technology for improving administrative processes as well as academic strengthening are discussed. The DIECPD principals often join the team during school visits and for visits to the local Block Resource centres. Since Block resource persons accompany team members through the school visits it gives the team the
opportunity to interact closely with them and understand their work better as well as make a note of specific challenges that they have been facing.

**Observations**

School Infrastructure: Has not been chosen keeping in mind the constraints of power supply and teacher preparedness and more as a means to increase enrollment due to novelty value of technology.

Digital Content: In a majority of the schools, curriculum aligned content was not available in one place. Most of the content was patchy and not very appealing.

Teachers: are interested in upskilling themselves on technology and its effective use. Currently, most do not know how to do this effectively.

Students: Most have access to mobile phones and are aware of how they work

**Takeaways**

School Infrastructure: Teachers and Administrators need to be supported in making better decisions regarding the purchase of technology for their schools keeping the cost to benefit ratio in mind.

Digital content: There is a need for a community of content creators that continuously churns out contextual, relevant and curriculum aligned content.

Teachers: There is a need to provide teachers with training of the effective use of technology in the classroom. Teachers need a credible channel through which they can get more information on teaching and learning practices.

Students: Students are ready for personalized learning through tablets/ phones

As a direct result of the MITRA Yatras, MITRA downloads across the state touched 100,000 in the month of September. By the end of academic year 2017-18 a detailed report of each MITRA Yatra and the results from the survey data will be published.

Given below are a some samples of the kinds of data points currently being tracked.
Abhimanyu Uchade, a grade 7 student, Kothari School, Yavatmal.
Abhimanyu was excited when he was asked to speak about how he uses internet on computer in his school. He is fascinated by how batteries work and he uses YouTube videos to do small experiments in his house using batteries. His concern was that people throw away batteries even when there is charge left in them. He feels batteries from China don’t last long and hence Indians should make good batteries. He kept mentioning how his teacher, Panchal Sir, keeps encouraging him and helping him to find videos of his interest. Abhimanyu’s story is a great example of how student outcomes improve when they are given right access and exposure.

Mr. Arvind Kashinathrao Tupe, Prashala Lasur station, Gangapur, Aurangabad.
Mr. Arvind is a sports teacher in his school. What is noteworthy about him is his sense of possibility. Being a former sportsperson, Mr. Arvind strongly felt that students in his schools should get opportunities that he himself couldn’t get growing up. He started using video clips of Kho-Kho, Kabbadi to create enthusiasm amongst his students. His students started participating in inter-school competitions. He would record their match on his mobile phone and later show the video to his students to discuss what went well and where they should improve. He did this for 3 years! Result? Their school team won the district championship last year in Kho-Kho. Mr. Kashinath’s example is an eye opener about the endless possibilities of using technology for improving student outcomes even beyond classroom.
Mr. Gajanan Nandedkar, H.M of Karanchkhed ZP School, Yavatmal.
Mr. Gajanan is the Headmaster of Karanchkhed School. He is working there as an HM for the last 12 years. During his tenure of 12 years, he has ensured his school is a functional digital school with teachers effectively using technology in daily teaching. What’s remarkable about Gajanan sir, is his relentless effort to work with the community for converting a non-functional graveyard into a beautiful school. Initially, he faced strong opposition from villagers to educate their own children. Not only did Mr. Gajanan ensure that enrollment in his school increased year after year but he successfully raised 10 lac rupees from the same community which initially opposed him sternly. He and other teachers in the school have amazing relation with all villagers. For his dedication and hardwork, he has been awarded “Adarsh Shikshak Award” on 5th September 2017.

Ujjwal Karwande, HOD English Department, RAA Aurangabad
Mr Karwande has launched a number of initiatives under for Spoken English in the State. Recently his team set up an App for Spoken English that is being used in schools across Aurangabad and in other districts in Maharashtra. He now plans to develop MOOCs for teachers on English skill development and upload them on MITRA 2.0. Mr Karwande has been very proactive in driving the adoption of technology at the workplace. RAA Aurangabad is currently attempting to transform itself into a paperless office, by minimizing the use of hard copies of documents through the use of Google Docs, Mail and Sheets.
Looking Forward

Partnership with National Teacher Platform (DIKSHA)

Maharashtra Academic Authority (MAA) has signed an MOU with the National Council for Teacher Education (NCTE) to adopt DIKSHA, the National Teacher Platform. Maharashtra’s instance of DIKSHA will be version 2.0 of MITRA containing an upgraded feature set of the current MITRA App and Web platform.

MITRA 2.0 will leverage DIKSHA’s infrastructure and continue to evolve through feedback from users. Maharashtra will also provide feedback to the DIKSHA team based on observations from across the state towards further development of the infrastructure.

The upgraded feature set includes:
1. Offline functionality - ability for users to download content onto their phones and use it offline at their convenience
2. Courses for teachers self development
3. Communities and Groups - features to boost social interaction and collaboration
MITRA 2.0 Administrative Structure

The ensure the success and sustainability of MITRA 2.0, the team is currently engaged in putting together administrative structures and processes within the existing government machinery. The organogram below showcases the various government bodies and their functions wrt MITRA 2.0
Content Goals

**WHAT**
- Marathi Medium
  - Math Grade 1-8
- Marathi Grade 1-8
- Urdu Medium
  - Urdu Grade 1-4
  - Maths Grade 1-4

**HOW**
- Content Creation Workshops at a Divisional Level with selected content creators (tech-savvy teachers)

**WHEN**
- November 17- March 18
  - 6 workshops will be conducted across Konkan, Aurangabad, Nashik, Nagpur, Pune and Amravati Divisions

Outreach Plan

**MITRA YATRA PHASE 2**
- Nov 2017- March 2018
  - 360 school visits
  - 10,000 teachers’ feedback captured
  - 100 teacher interaction sessions

**MAA IT Youtube Channel**
- Dec 2017 onward
  - Educator Interviews
  - Videos on effective use of technology

**MAA IT Cell Newsletter**
- Dec 2017 onward
  - Monthly newsletters
  - Case studies and reading material on Education Technology
  - Tech-Savvy teacher of the month