MITRA EoY Report

2017-2018

Pune
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EXECUTIVE 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. In the months following the launch, MITRA has been downloaded more than 1,50,000 times, feedback on MITRA usage has been collected from over 7 field visits conducted in 4 districts, focus group discussion held in over 6 districts in the state and more than 2300 content pieces have been created by teachers through content creation workshops facilitated by the MITRA team.

The following report contains the details of the major focus areas for MITRA in the year 2017-18.
INTRODUCTION

Setting the Stage

At its core MITRA was born out of the need for a single platform where the growing number of tech savvy teachers could come together and share common teaching learning resources and also engage in self learning.

In the year of its initiation (2016-17) there was a lot of focus on building a strong minimum viable product that would help gauge the engagement and interest of teaching to use such an application. This belief was strengthened when MITRA hit the 50,000 downloads mark within 5 days of its launch in May 2017. Despite the initial success of MITRA, the following were some of the major assumptions that needed to be checked and needs that had to be addressed

1. Lack of awareness regarding MITRA in various districts
2. Lack of direct feedback from the ground
3. Need to understand the ground realities surrounding the use of technology for teaching and learning in Digital Schools and Classrooms in the State
4. Need to understand attitudes of teachers and students towards digital content
5. Need for contextual teaching and learning content
6. Need to make MITRA a long term, sustainable product that is owned and managed by the Maharashtra Government

Responding to the above needs and assumptions; ensuring long lasting success and adoption for MITRA meant focusing on 3 main axes through the year:

1. Content Development
2. Outreach and Feedback
3. Product Integration and Institutionalization
**HIGHLIGHTS 2017-18**

**Important Milestones in the Past Year**

1. SCERT signs MOU with NCTE to integrate MITRA with National Teacher Platform - DIKSHA
2. More than 2300 Content created through Content Creation Workshops
3. Over 10,000 teacher responses captured through 4 MITRA Yatras held across Amravati, Aurangabad, Yavatmal and Nandurbar
4. Over 13,000 unique QR codes printed chapter-wise in all Balbharati Textbooks across 8 mediums
5. Focus Group Discussions with 115 teachers across six districts to gather feedback on content created through workshops

**Outcomes/Changes Witnessed**

1. Overall improvement in content quality
2. Increased awareness regarding MITRA
3. Increased ownership by SCERT towards digital content creation
4. Closer coordination between Balbharati and MSCERT

After partnering with NCTE on the National Teacher Platform - DIKSHA the focus of the project has shifted more towards the creation of high quality content by mobilizing the tech savvy teacher network through content creation workshops. Also, there has been a greater focus on building awareness on the ground regarding the effective usage of technology for teaching.
A PLATFORM FOR TEACHERS

Components of MITRA

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

1,29,000
Users

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
CONTEXTUALIZED TEACHING LEARNING CONTENT

Due to a paucity of contextualized teaching learning content in local language, teachers across the state had started creating student content on their own. In an attempt to support teachers in their endeavour to streamline this process, and gradually improve the benchmark for teacher made content quality, the team has been conducting content creation workshops since 2016.

In 2017 Maharashtra took on the ambitious goal of creating and linking digital content to each chapter of the State Textbooks through QR codes.

A total of 13,600 QR codes were printed. A total of 5467 unique content pieces would need to be created. This target has pushed the team to come up with multiple innovations in the content creation process. Outlined below are some of these activities:

- **QR Code Imposition**
  - Identify the Textbooks
  - Identify hard-spots in Textbooks
  - Impose QR Codes

- **Content Creation / Pooling**
  - Content is created and/or pooled against the QR Code(s) identified

- **ETB Go-Live**
  - Content (created/pooled) is mapped against the chapters/topics of the textbooks.
  - Content (created/pooled) is linked to the QR codes imposed in the textbooks.
The Content Creation Workshop

Every Content Creation Workshop consists of teachers who have been selected by SCERT IT dept as tech savvy and verified by Subject departments of SCERT as having requisite knowledge on the subject for which content is being made. Subject experts are chosen by SCERT subject departments who act as mentors, advisors and manage content review.

Content Creation Workflow

1. **Templatization of Concepts by Subject Experts**: Subject Experts discuss the various elements that need to go into a learning lesson and enter these in templatized formats.
2. **Storyboarding**: Tech Savvy Teachers and subject experts sit together and translate the templatized lesson into a storyboard which will define the flow of the learning lesson.
3. **Storyboard Review**: Each teacher presents their storyboard and feedback is given to them on the same by the subject experts to make the required corrections.
4. **Content Creation on Digital Platform**: After the storyboards have been finalized teachers begin the process of digital content creation on a digital platform- this may be the DIKSHA platform, Powerpoint or other open source platforms.
5. **Digital Content Review**: After the content is drafted by teachers it is reviewed online. Teachers are expected to make the necessary changes in the content based on
6. **Content Published**: Once all the corrections are made based on the reviewers comments, the

### CONTENT CREATION WORKSHOP SUMMARY

<table>
<thead>
<tr>
<th></th>
<th>WORKSHOPS CONDUCTED</th>
<th>CONTENT CREATORS TRAINED</th>
<th>OUTPUT IN CONTENT PIECES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marathi</td>
<td>12</td>
<td>245</td>
<td>1018</td>
</tr>
<tr>
<td>Urdu</td>
<td>4</td>
<td>63</td>
<td>428</td>
</tr>
</tbody>
</table>
1. Templatization of Concepts and flow by Subject Experts

2. Storyboarding

3. Storyboarding Review

4. Content Creation on DIKSHA

5. Content Feedback by Subject Experts
Feedback on Teacher Made Content

In March 2018, in order to pilot test the content being created by the teachers, focus group discussions were conducted with 115 teachers across 6 districts to understand their opinions on content created by teachers and asked them to rate teacher created content against professionally made content.

Teachers chose content made in the workshops above content made professionally or content made by them outside of the workshops.

Some of the reasons for teachers choosing content made in the workshop over professionally made content was as follows:

1. Interactivity of content 47%
2. Legibility of font and colour 19.2%
3. Instant feedback in assessments 33.8%
Outcomes

1. MAA Departments are taking responsibility to create e-content for the first term.
2. MAA departments are also taking ownership in this work e.g., participating in the facilitation of the workshop, Following up with teachers, etc.
3. IT department is helping other departments to conduct the workshop not just by providing infrastructure but also by conducting technical sessions in the workshop, creating google sheets with the help of which departments can take follow up and whenever required any technical help.
4. We have identified people in the MAA/DIECPD who can take responsibility of different aspects of during workshop and post workshop tasks in most of the subjects.

Key Learnings

1. Officers at MAA want to learn and take responsibility for their work in the education system -They need a safe space where they can learn even through multiple failures and build specific skill sets which are required for their role.
2. Having Board of studies members as on call reviewers is not a long term viable strategy due to their busy schedules and lack of tech skills.
3. We need to have a dedicated team at MAA level who will take charge of ensuring quality in content creation. They will need to be coached on different aspects like pedagogy, effective use of technology in classroom.
MITRA YATRA

A Collection of Key Insights on tech adoption in Digital Schools in Maharashtra

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 yatra 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>
<thead>
<tr>
<th>DISTRICT NAME</th>
<th>TALUKAS COVERED</th>
<th>SCHOOLS VISITED</th>
<th>CLASSROOMS OBSERVED</th>
<th>TEACHERS REACHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nandurbar</td>
<td>3</td>
<td>10</td>
<td>25</td>
<td>1300</td>
</tr>
<tr>
<td>Aurangabad</td>
<td>9</td>
<td>20</td>
<td>45</td>
<td>1346</td>
</tr>
<tr>
<td>Yavatmal</td>
<td>12</td>
<td>34</td>
<td>124</td>
<td>410*</td>
</tr>
<tr>
<td>Amravati</td>
<td>12</td>
<td>38</td>
<td>148</td>
<td>380*</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>102</td>
<td>342</td>
<td>3436</td>
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*only small group sessions conducted*
Deconstructing the MITRA Yatra

School visits and Classroom Observations

Teacher Interaction Sessions

The team has been interacting with teachers in two modes - Small group and Large group interactions. **Large group** sessions, held at block level aim to inform and update teachers about MITRA and the latest developments in the Ed tech space as well as initiatives being undertaken by the government in this space. **Small group** sessions are mainly to solicit feedback from teachers at a cluster level on their interaction with technology in education and factors influencing their choices with regards to the purchase and use of technology in their classrooms.
KEY LEARNINGS

Observations

1. 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.
2. 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.
3. Teachers: are interested in upskilling themselves on technology and its effective use. Currently, most do not know how to do this effectively.
4. Students: Most have access to mobile phones and are aware of how they work

Takeaways

1. 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.
2. Digital content: There is a need for a community of content creators that continuously churns out contextual, relevant and curriculum aligned content.
3. 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.
4. Students: Students are ready for personalized learning through tablets/ phones
5. As a direct result of the MITRA Yatras, MITRA downloads across the state touched 100,000 in the month of September 2017. Given below are a some samples of the kinds of data points currently being tracked.
Abhimanyu Uchade, Grade 7 Student
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. 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.

Vikrant Gund Patil
IT Vishay Sahayak, Satara
Mr. Vikrant is a great example of proactiveness. Be it creating content in workshops, following up with teachers, working on content aggregation or facilitating a workshop for 60 teachers, he is always ready to jump in and work relentlessly. Over the last one year, he has worked on all aspects of a content workshop and been a great helping hand to the team.

Sudhakar Yadav
Vishay Sahayak, Science Dept, MAA
Sudhakar yadav, he is very good in delegating work to people. He has very good relationship with teachers as well as DIECPD people. Because of this science department was able to select very good science teachers and complete taxonomy in a day.

Saraswati Suryavanshi,
Head of Department, IT, MAA
Since the day Surayavanshi ma'am joined she has come across as an empathetic leader. She is always willing to understand new processes and encourages open discussions amongst team members. She is solution orientated and this amazing trait of hers has significantly reduced the amount of time spent in getting approvals and sending out communication to districts.

Tauseef Parvez,
Vishay Sahayak Urdu department , MAA
Tauseef exemplifies leadership. He has single handedly taken on the responsibility for creation of Urdu content across all subjects. Setting up rigorous selection processes he has created a strong team of 65 Urdu content creators. His continuous motivation and support has pushed his team to perform consistently and deliver on their content targets.
Team

ABHINAV UNNI
Team Lead

“From MITRA Yatras to Content Workshops this year has been an action packed one for myself and the team. Our strategy for the year has been to play to our strengths and support each other through difficult situations. My biggest learning from this year has been the importance of managing expectations of all stakeholders and protecting the team from too much uncertainty”

SAIPRASAD SALE
Outreach Manager

“It has been a great year. Through dealing with the uncertainties that I have encountered in the course of the year I have learned the importance of thinking on my feet and keeping calm in difficult situations. I have seen that a significant majority of people are willing to work hard however, they require the right support or guidance or appreciation to keep them motivated and get direction to work.”

SAYALI CHOUGALE
Content Associate

“Working with teachers and supporting them in the process of content creation has reaffirmed my faith in the concept of teacher created content. This year I have been able to build relations across multiple departments at SCERT. These relations with Subject Heads have played a key role in driving more ownership among SCERT in planning and conducting workshops”
PARTNERSHIPS

Ekstep

Ekstep have been supporting MITRA since 2016. All content creation workshops are held on the EkStep platform. They have lent their technical expertise and supported the team on an ongoing basis through multiple content creation workshops. They have been instrumental in the creation and tracking of 13,600 QR codes that have been printed in close to 600 textbooks titles across 8 mediums.

CSF

CSF has been a key partner and funder right from the conceptualization stage of MITRA. They have played an important role in the adoption of DIKSHA by Maharashtra. Through the central PMU for DIKSHA, Central Square foundation provides ongoing support to the MITRA team.

MFE

Motivation for Excellence foundation has been funding MITRA since its conceptualization in 2016.
Looking Ahead

After an eventful 2017-18 year the MITRA team is looking forward to expanding on the success of the year mainly on the content and outreach front. Through continued engagement with the 1.6 lakh strong tech savvy teacher community across Maharashtra and increased focus on improving content quality the MITRA team aiming at maximum adoption and consistent usage of MITRA 2.0 in the coming year.

Plans for Next Year

- Creation of 5700 unique high quality content across 8 mediums
- Creation of a cadre of 3000 expert content creators
- Certification of Expert Content Creators
- Benchmarking of Digital content
- Validation of teacher created content through FGDs
- Pilot testing of content in digital classrooms
- Creation of Teaching with technology module based on digital content created