

NATIONAL TEACHER PLATFORM

a resource for

**Our Teachers,
Our Heroes**

Strategy and Approach

May 2017



**Government of India
Ministry of Human Resource
Development**



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NCTE**

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Mr Anil Swarup,

Secretary
Department of School
Education & Literacy

Ministry of
Human Resource
Development

Message from Secretary, MHRD

The last few years have seen a steady increase in adoption of smartphones, and the true power of this telecom revolution is becoming increasingly apparent. This is a device which is changing lives. One clear example of this is the 'JAM' (Jan Dhan–Aadhaar–Mobile) which has brought millions of people into the formal banking sector whilst simultaneously reducing transaction costs, increasing tax collection and improving customer experience.

At MHRD, we currently have the opportunity to catalyse a similar revolution in education. The National Teacher Platform (NTP) is a step in this direction. As our teachers gain access to a smartphone, the potential impact of mobile-based solutions increases. My interactions with hundreds of teachers, teacher educators and administrators give me hope that we are already in the right direction towards achieving this impact. I have seen teachers innovating tech-based solutions in their own classrooms, teachers connecting with each other to share information and resources via statewide WhatsApp groups and tech-savvy leaders building portals to enable the sharing of resources. All of this indicates that there is a massive demand for high-quality, relevant technology-based solutions which address the day-to-day problems of these teachers.

National Teacher Platform (NTP) is the first in a series of such innovations, which needs to be integrated into existing structures and systems to ensure widespread adoption. NTP leverages the benefits of open-source software and provides states with the freedom and flexibility to design contextually relevant solutions. By ensuring that all content on NTP is openly licensed, MHRD will set the standard for collaboratively working with various stakeholders to radically transform teacher education. NTP will provide teachers with convenient, personalised, need-based materials and tools, which enable them to take ownership of their own development to a greater extent than ever before. I strongly believe NTP will be the cornerstone of India's teacher education system for many years to come.



**Dr A. Santhosh
Mathew,**

Chairperson,
National Council for
Teacher Education

Ministry of
Human Resource
Development

Message from Chairman, NCTE

The role of 'Our Teachers, Our Heroes' is paramount in defining the quality of education. The National Council for Teacher Education (NCTE) at its core believes that our teachers should be empowered in order to transform education in India.

A crucial element of this is about providing our teachers with a seamless environment for learning and professional development. Our aim through the NTP is to enable this for all teachers in all schools and for all teacher educators and student teachers in all Teacher Education Institutions (TEIs).

While participation in the NTP is voluntary for teachers in schools, for teacher educators and student teachers in TEI it is mandatory. NCTE is issuing instructions to this effect.

Besides the NTP, at NCTE we are also making efforts to ensure that the information asymmetry currently existing in the market for teacher education and school education is addressed. For teacher education, we are doing this by benchmarking TEIs through a national accreditation and ranking exercise that accounts for:

- Academic assets
- Physical assets
- Teaching Learning quality
- Learning outcomes of student teachers
- Teacher competency of teacher educators

For school education we are going to do this by encouraging teachers in schools to benchmark themselves through one of several competency assessment tests that we will soon be accrediting.

'Learn what you want, when you want and how you want' is the power we want to give to our teachers. The National Teacher Platform will help us do this.

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Executive Summary

Teachers matter more to student achievement than any other aspect of schooling; this is established by research and is one of the most agreed upon arguments in education. Our Teachers are Our Heroes.

In India, there are over 10 million teachers. The diversity and complexity of student background and learning levels in an Indian classroom cannot be overstated—every one of our teachers has to navigate this every day. Over the past several years many state and central government initiatives have been attempting to strengthen the capacity of teachers so that they are better able to deliver meaningful instruction to help students achieve their full potential. It is now time to consider implementing solutions, initiatives and innovations at scale so as to positively impact the professional lives of all teachers in the country. Teachers should have easy access to teaching and learning resources, and opportunities to develop professionally, if they have to fulfill their central role in the education of OUR children.

The Ministry of Human Resource Development, Government of India proposes to build a National Teacher Platform by leveraging the power of technology to serve teachers in India. The National Teacher Platform is being envisaged as a shared infrastructure that will be available for use by all teachers, educationists, academics, administrators, governments, NGOs and others in the field of education across the country. This will accelerate and amplify solutions, experiments and innovations that are underway, and being attempted in the areas of teacher training and professional development.

A number of states have expressed an interest in building technology platforms for teachers. Instead of each state building individually, the National Teacher Platform will be built as a common public good. States have the autonomy and choice to repurpose and extend the National Teacher Platform to suit their own needs and purposes. The attempt is to put in a one-time effort in conceptualisation so that all states in the country can benefit from a common technological approach.

This will save costs and time while ensuring flexibility, diversity and interoperability. While the need to support our teachers in their learning and development is felt across the country, different states are at different levels of conceptualisation and tech-readiness. A common national platform such as the National Teacher Platform would ensure that all states have equal opportunity to participate and conceptualise solutions local to their needs that would eventually benefit all teachers across the country.

The National Teacher Platform is being developed for the benefit of Teachers in School, Teacher Educators and Student Teachers in Teacher Education Institutes (TEIs). Therefore the term 'teacher' as used in this document and in the context of the National Teacher Platform shall mean and include all the three categories of teachers detailed above.

India also has a large number of talented and committed teachers. These teachers need to be celebrated and their expertise made available to others. The reality, complexity and diversity of a classroom is only experienced by the teacher. Even today, teachers find organic solutions to deal with concerns and challenges in their classroom to address learning needs of their students. One of the fundamental tenets of the National Teacher Platform is to help the teacher shine and succeed. The National Teacher Platform will be developed with tools and features that enable teachers to make their own solutions, to create materials they need, and to customise to their context and purpose.

At a high level, the National Teacher Platform would contain the following features:

- Courses for teachers¹ to enable continuous learning
- Resources for use in classroom
- Dashboards for progress and assessment
- Communities for collaboration and discussions
- Announcements, notifications and circulars

¹ As stated earlier please remember that teachers in this document means teachers in schools as well as teacher educators and student teachers in TEIs.

The National Teacher Platform will be available to all teachers, anytime, anywhere. It will be:

Open and Modular

The National Teacher Platform will be a minimal and generalised technology platform built using Open Standards and Application Program Interfaces (APIs) and will host Open Educational Resources (OER). It will also have tools and interfaces for the creation and consumption of teaching and learning content. MHRD will encourage state governments, educational institutions and other agencies to repurpose, extend, customise and contextualise the National Teacher Platform to suit their purpose. As a shared infrastructure the platform will avoid duplication of effort and save costs.

User-focused and Iterative

The National Teacher Platform will cater to the needs of teachers including the development of Attitude, Skill and Knowledge. The platform will continuously develop and evolve in an iterative manner based on user needs and stakeholder feedback. Some identified needs are:

- Content to be benchmarked to the National Curriculum Framework (NCF) and courses mandated by National Council for Teacher Education (NCTE);
- Teachers to have access to courses for qualification exams such as the Teacher Eligibility Test (TET);
- Observation and assessment tools for need analysis for Academic Support Personnel to design trainings;
- Online profiles for teachers to track professional development progress, courses chosen and completed and performance in tests;
- Teacher Educators to manage and track progress of Student Teachers in TEIs.

In conclusion, the National Teacher Platform will be a large technology-enabled collaborative environment that makes it possible to set in motion a movement to improve learning for our children. It enables us to unlock and amplify the enormous potential of our teachers and celebrate the rich human capital within India's education system.

The scope of the document is limited to stating the vision, strategy and approach for the development of the National Teacher Platform. The document also contains an overview of the principles guiding the design and architecture of the National Teacher Platform and highlights some of the proposed features of the platform. The operational details of building and rolling out the platform including the content strategy, delivery mechanisms and other related matters are therefore beyond the scope of this document.

Introduction

In India, there are over 10 million teachers comprising of Teacher Educators in Teacher Education Institutes (TEIs), Student Teachers in TEIs and Teachers in Schools. Needless to say, these teachers are central to student learning and they need to become more effective in their practice if they have to improve student learning outcomes. In order to continuously support and upgrade skills of over 10 million teachers, it is becoming abundantly clear that teacher training in physical locations on fixed days cannot reach all teachers. The traditional methods of teacher training and sporadic support is not enough—not for the teachers and certainly not for their students.

Data released by the District Information System for Education (DISE) for 2015-16 shows that only 15% of government school teachers received training. Most of the time, these trainings are ad hoc one-off exercises without any meaningful follow-up. Trainings are often not designed systematically, are not based on needs assessment and tend to be irrelevant, outdated and repetitive. Most importantly, teachers do not have the choice to decide on content or the type of training opportunity they would like to pursue. Teacher training methodologies need to evolve to ensure effective transfer and application of knowledge and skills, and to provide continuous access to learning opportunities for all teachers.

Recognising these problems, there are several innovations underway that are exploring the potential of using technology for teacher training and development. Teachers are also increasingly becoming technologically savvy. Across the country, there have been various instances of teachers adopting technology organically—some have created digital teaching content, mobile applications, web portals and are active participants in online discussion forums. These innovations have spread through word of mouth and have seen significant adoption. In fact, some state governments have started to systematically think about leveraging technology to develop and support their teachers. Some notable programs include

Karnataka's Subject Teacher Forum², Maharashtra's MITRA app, Andhra Pradesh's APEKX³ platform and Tamil Nadu's SCERT Youtube channel⁴. At the National level, the National Council for Education Research and Training (NCERT) has built a National Repository of Open Educational Resources⁵ (NROER), which has more than 10,000 units of digital resources.

All of these indicate a growing demand and desire from the states and the teacher community to find and create solutions that they can own, use and deploy. This presents a larger opportunity to develop a strategic approach and common outlook towards leveraging the power of technology for teacher development that can go beyond one-off experiments and scale. It is with this intent that the MHRD and the National Council for Teacher Education (NCTE) are developing the National Teacher Platform, with support from the National Council of Educational Research and Training (NCERT) and National University of Educational Planning and Administration (NUEPA).

² <http://www.karnatakaeducation.org.in/forum/61>

³ www.apekx.in

⁴ <https://www.youtube.com/channel/UC7GbVKqHPXww1acL1x9DNQw/feed>

⁵ <http://nroer.gov.in/>

National Teacher Platform

MHRD proposes to develop a National Teacher Platform (NTP) that will be available to all teachers anytime, anywhere and will provide curated content and an environment for collaboration and peer learning⁶. It will enable, accelerate and amplify many solutions, ideas and innovations for teacher development by leveraging the power of technology. The NTP will have a multi-tenant architecture, where a single instance of the platform can be reused by state governments and others to configure and contextualise the NTP to suit their purpose and needs.

At a high level the National Teacher Platform would contain the following:

- Courses for teachers to enable continuous learning
- Resources for use in classroom
- Dashboards for progress and assessment
- Collaboration tools and discussion forums
- Tools for announcements, notifications and circulars

Autonomy and Choice

A number of states across the country have expressed an interest in building technology platforms for teachers. Instead of each state building individually, the National Teacher Platform will be built as a common public good. States have the autonomy and choice to repurpose and extend the National Teacher Platform to suit their own needs and purposes. The attempt is to put in a one-time effort in conceptualisation so that all states in the country can benefit from a common technological approach. This will save cost and time while ensuring flexibility, diversity and interoperability. While the need to support our teachers in their learning and development is felt across the country, different states are at different levels of conceptualisation and tech-readiness. A common national platform such as the National Teacher Platform would ensure that all states have equal opportunity to participate and conceptualise solutions local to their needs and that would eventually benefit all teachers across the country.

⁶ It will also have resources for assessment of students teachers as required by NCTE

Open and Modular

The National Teacher Platform will be a minimal and generalised technology platform built using Open Standards and Application Program Interfaces (APIs) and will host Open Educational Resources (OER). It will also have tools and interfaces for the creation and consumption of open access teaching and learning content. MHRD will encourage state governments, educational institutions and other agencies both government and private to repurpose, extend, customise and contextualise the National Teacher Platform to suit their own needs and contexts. As a shared infrastructure the platform will avoid duplication of effort and save costs.

Organic Solutions

While there is a need to address teacher development across the country, India has a large number of talented and committed teachers who are very well equipped to address their needs. These teachers need to be celebrated and their expertise made available to others. The reality, complexity and diversity of a classroom is only experienced by the teacher. Even today, teachers find organic solutions to deal with concerns and challenges in their classroom to address learning needs of their students. One of the fundamental tenets of the National Teacher Platform is to help the teacher shine and succeed. The National Teacher Platform will be developed with tools and features that enable teachers to make their own solutions, to create materials they need and to customise to their context and purpose. The National Teacher Platform is a space that allows for organic solutions to develop, that the teacher can make their own.

Driven by User Needs

The National Teacher Platform will cater to the needs of and will facilitate the development of Attitude, Skill and Knowledge for teachers in Schools as well as Teacher Educators and Student Teachers in TEIs. The platform will be developed and will continuously evolve in an iterative manner based on user needs and stakeholder feedback over several years. Teacher needs are varied, and range from subject matter support to skill development to classroom management. An indicative list of needs that the NTP will enable are:

Content and Resource Needs

- The NTP will cater to requirements of teachers in all subjects (including arts, music and physical education) in all classes (including nursery, primary, upper primary, secondary and senior secondary).
- At every level, there will be separate resources made available for teachers to cater to the needs of children with learning disabilities wherever required.
- Institutions, groups and individuals engaged in teacher development and content creation can be enrolled as members of the platform, and can contribute to the creation, curation and use of resources on the NTP.
- All content will be benchmarked to the National Curriculum Framework (NCF) and courses mandated by National Council for Teacher Education (NCTE).

Teacher Needs

- Teachers will be able to take courses at their convenience to expand skill and knowledge.
- Teachers will be able to prepare for qualification exams such as the Teacher Eligibility Test (TET).
- Online profiles will allow teachers to track their professional development progress, courses completed and performance in tests.

Administrative Needs

- Academic Support Personnel should use observation tools and assessment to do need analysis and provide coaching support.
- Teacher Educators will be able to manage and track progress of their Student Teachers in TEIs.

Design and Architecture Principles

Utilising the Government of India's Policy on Adoption of Open Source Software⁷ and Policy on Open Application Programming Interfaces⁸ under the Digital India programme, the NTP will be developed on the following design and architecture principles:

1. Avoid Duplication of Effort via Shared Infrastructure

The NTP will be deployed at the national level as a multi-tenant platform. States will be able to build and configure the platform to run their own teacher platforms, or repurpose the open source software to deploy their own variants of a teacher platform. The national platform will contain key features and tools that will be commonly useful for all. This shared infrastructure model allows states to participate in a larger movement for learning and democratise the creation and consumption of the content on the platform. This approach will also avoid duplication of effort by states, bring down development costs and create a shared body of knowledge.

2. Allow Interoperability via Openness and Use of Open Standards

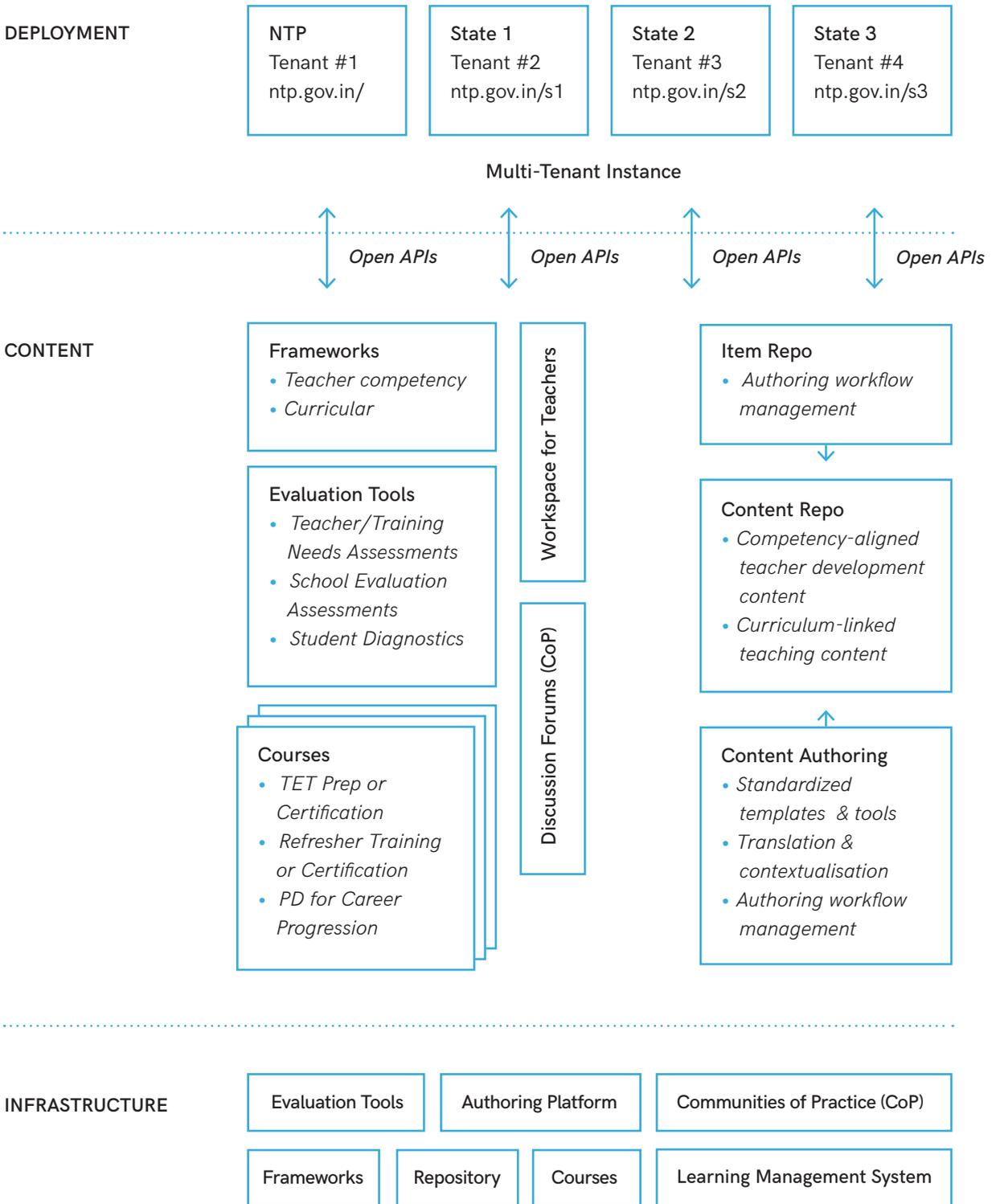
Open and seamless interoperability is an absolute requirement for the wide adoption of an open learning platform on which many applications can be built. Therefore, the NTP will be built using open standards, without affinity to specific platforms, programming languages or network technologies. In addition, all components within the platform will be loosely coupled using open interfaces (APIs) ensuring interoperability. Adoption of open API, open standards and wherever prudent choosing open source frameworks/components over proprietary frameworks/components, creating vendor neutral API's and interfaces will achieve the goals of openness and interoperability.

3. Enable Extensibility via Layerability and Modular Design

The system design and architecture of the NTP will be modular with clear separation of concerns for data storage, service and API layers. All components of the infrastructure will be minimalistic and independently replaceable and extensible. This loose coupling of components will enable diverse applications as state governments will be able to customise at a sub-platform level and create contextual solutions to serve their specific purpose.

⁷ http://meity.gov.in/sites/upload_files/dit/files/policy_on_adoption_of_oss.pdf

⁸ http://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/Policy-api.pdf



4. Allow Configurable Design with Plug-n-Play Capabilities

The modular design of the platform will allow state governments to configure, adapt the platform and use plug-n-play components depending on their needs. The platform will also allow states to configure existing policies, make changes to them with appropriate permission control and audit trace. Decoupling of the business parameters, rules, master data from the rest of the solution architecture and making them configurable allows for a great deal of flexibility. Configurable plug-n-play model will also ensure simplicity and states will be able to implement their own instance rapidly, allowing the platform to scale nationally with ease.

5. Build Diverse Solutions via Open Application Program Interfaces

Adopting open standards with an API-driven architecture is important to ensure that the platform doesn't hold monolithic solutions and that the latest technologies can be integrated with the platform at a later date. Open APIs will allow innovative contextual solutions to be built on top of the platform, thereby amplifying existing resources and enabling new innovations for the ecosystem. Third parties can build and spread strong reference solutions on top of the platform. States that already have a platform for teachers can benefit by using open APIs to access the content on the NTP. The design allows states to continue using their existing platforms and easily integrate with the NTP through open APIs to leverage the wider capabilities of the NTP.

6. Create Common Public Good via Open Source

As far as possible, NTP will be developed taking advantage of available open source resources, open infrastructures and core web-scale services. The content on the platform will also be Open Education Resources (OER). Using open source will allow flexibility in feature enhancements, give full code control, avoid lock-in to proprietary systems, and allow any third party to build solutions on top of the NTP. Building and maintaining the NTP as an API-driven platform and keeping it vendor agnostic is very critical to ensure agility and scale. Content being OER will unlock scarce resources for use by a large number of teachers. Building the platform using open source tools and OER will strengthen and amplify the pool of common public resources and solutions available in the ecosystem.

**7.
Create Transparency and
Accountability via Open
Data**

The NTP will be data driven and managed efficiently by measuring data at a high degree of granularity. Creating well-defined metrics, and feedback loops for insights and learnings that will be shared with the ecosystem for continuous improvement. All data will be openly available via APIs for transparency and accountability. Access to data will ensure that the quality of content and tools on the platform is measured systematically and enable quicker responsiveness to user needs and shorter improvement cycles.

**8.
Permit Distributed Access
via Multiple Delivery
Channels**

NTP will enable multiple channels/interfaces to users for interaction. With high penetration of mobile devices and internet usage through mobile devices, an important consideration is that end-user devices and their screen capabilities (including browser variations) are numerous and are constantly evolving. Hence, it is imperative to design the NTP such that an ecosystem of delivery applications can evolve. States and other agencies will be able to pick and choose their own delivery channel (mobile, tablets, PCs) depending on the 'user' (teachers, principals, administrative support personnel), their required use cases and available infrastructure (internet, offline, mobile, projector).

9. Designed to Scale via Commodity Computing

Given that the NTP will be used by millions across the country⁹, it is important that the scalability of the platform is measurable and demonstrable. The platform will be able to scale horizontally to millions of users and across the ecosystem and will reliably handle data records in billions. The platform will be such that all components including computer, network and storage will scale horizontally to ensure that additional resources can be added as and when needed to achieve required scale. Being cloud-ready and using commodity hardware will ensure that capital investments will be made only when required. Using commodity hardware also gives a choice of infrastructure and allows heterogeneous infrastructures to co-exist.

10. Data Security and Privacy by Design

Managing security and privacy of data will be a critical part of the design of the NTP. Data will be digitally signed to ensure privacy and all data access is always through API calls to ensure centralised management of security controls. Direct access will be prohibited for internal data access (access between various modules) and use of APIs will be encouraged. Encapsulating access controls, auditing, confidentiality (via encryption), and integrity (via signatures) is only possible via common APIs. No application will access data directly from the data storage. The NTP will ensure privacy and data integrity and will disseminate data to authenticated and authorised users only (both internal and external).

⁹Being an open platform, people from all over the world will be able to use the resources.

Open Education Resources

One of the main goals of the NTP is to create a common repository of Open Education Resources (OER) for easy access by teachers across the country. The NTP will leverage free and open repositories such as National Repository of Open Educational Resources (NROER) and other sources to host seed curated, openly licensed content and resources. Content created on the NTP shall be published as OER under a Creative Commons License. The term “content” used in the context of the NTP is wide and includes, among other things—frameworks, teaching content and teacher development content.

1. Frameworks

The NTP will host frameworks, which will be used for ‘tagging’ or ‘indexing’ to organise content on the platform for easy discovery. States can choose to use existing frameworks on the NTP or create their own versions to suit their respective implementation purposes. Examples of frameworks include:

a. Teacher Competency Framework (TCF)

A Teacher Competency Framework (TCF) is a well-defined set of competencies and skills for teachers at different levels of proficiency. For example— knowledge of effective teaching and learning methods, planning and delivery of instruction, content and pedagogical knowledge, classroom management techniques etc.

b. Curricular Frameworks (CF)

Curricular Frameworks (CF) are an articulation of the objectives of a course¹⁰. Lessons and topics organised under different subjects and domains help define the scope and provide a means to the realisation of the objectives. Examples include— National Curricular Frameworks for different content areas (subjects) for all school grades linked to learning indicators and prerequisites, and National Curriculum Framework for Teacher Education programs like B.Ed, D.Ed and others.

¹⁰ Courses refer to a content area (subject) in a school grade or an education program such B.Ed

2.
Curriculum-
linked
Teaching
Content

NTP will hold a bank of openly-licensed teaching content which teachers may use for preparing before their classes, or as reference and practice material in class or for student assessment. Types of content include:

c. Learning resources

Teachers can use this content in preparation for a class or in class to teach students. Similarly, Teacher Educators in TEIs can use relevant content to deliver training for Student Teachers. Content types include videos, interactives, animations, activities, lesson plans, exercises, charts, textbooks and several other materials.

d. Student assignment and assessment

The NTP will have an item bank which teachers can use for school based formative and summative assessments and in TEIs for Student Teacher assessments. The same item bank can also be used to produce worksheets and give class or home assignments to children and Student Teachers.

3. Competency- aligned Teacher Development Content

The NTP will also host content focused on developing knowledge, skills and attitude for teachers. This content repository will be tagged by teacher competencies as available in the reference Teacher Competency Framework. Among other things, the NTP will host courses and bite-sized resources in various formats.

a. Courses

The NTP will contain short and long term courses that are mapped to a curriculum (B.Ed, D.Ed etc.) or for a particular competency in the Teacher Competency Framework. These courses can be taken by teachers for self-learning or as part of teacher training programs. Sample use cases include:

- Course materials for Teacher Eligibility Test (TET) prep
- Refresher training for ongoing professional development
- Skilling on new competencies
- Recertification of existing teachers in the system
- Professional development for career progression such as mentor teacher training, teacher educator training, headmaster training, school leader training and others

b. Bite-sized resources

The NTP will also host teacher competency content that is not comprised of courses but bite-sized resources that teachers can consume at their own convenience. Examples of such resources include videos and material on classroom management and lesson planning, behaviour management trackers and expert podcasts that teachers can benefit from.

Platform Features

National Teacher Platform will be built with features that will enable the creation and delivery of holistic and flexible teacher development programs. The platform features provide for multi-lingual and offline support to address the diverse context of India. The development of features will be based on user needs and feedback. The initial set of features being considered for the platform are:

1. Content Authoring

The NTP will have a growing collection of authoring tools and templates to create a variety of content. Content creators can create content for competencies/ learning outcomes that have insufficient resources or strengthening and contextualising the content repository. In addition, the authoring tools will allow for seamless translation and contextualisation of existing content on the platform to local languages. Content authoring will involve a workflow for reviews, iterations and approvals, which will be configurable at the national and state level.

2. Course Management

NTP will be used to run online courses and the course management tool will be configurable to suit various contexts. The feature list includes:

Course Building

- Courses for teachers, master trainers, facilitators
- Courses in different languages and duration
- Flexible courses designed for online/offline
- Blended courses, part on platform and part on site
- Course covering range of topics and languages
- Explore Open Educational Resources on the NTP and create courses

User Management

- Individual self-paced study
- Group courses
- Creation of blended groups
- User hierarchy
- Courses in batches with fixed or open periods

Course-related dashboards that give data on usage, engagement, effectiveness

Course-related discussion forums

3. Teacher Practice, Observation, Assessment and Evaluation Tools

NTP will make available teacher assessments and evaluation tools, examples of which are as below:

Classroom Observation

This is a technique used to provide individualised coaching to teachers on their classroom practice.

- NTP will be capable of creating and using standard observation tools and best practices.
- Teachers will be able to upload videos of their own classroom practice.
- Teachers will be able to self-assess or be mentored by academic support personnel or their peers using rubrics that are being developed by NCTE.
- Teachers can track their data from their classroom observation results and choose relevant content from the platform.

Needs Assessment

This helps determine individual and collective training needs of teachers.

- NTP will have capabilities for creating and using needs assessment tools.
- Academic support personnel can determine training requirements by using these tools and design relevant teacher training programs for individual teachers or a group of teachers.
- Teachers can also use the same tools to self-assess and create their needs-based individual training plan.

Awards and Recognition

This feature will help states to create incentives for teachers to engage in continuous professional development.

- States and schools may design evaluations on the NTP so that they are able to recognise and reward their best performing teachers and school leaders based on consistent performance in evaluations.

4. Student Assessments Generation

NTP will allow teachers and Teacher Educators to provide practice assignments as well as assess and track student progress for individual or classroom-level intervention.

- Teachers and Teacher Educators will be able to discover and create questions and worksheets for the use of their students.
- The assessments can be summative or formative, and will allow the teacher to see the class performance and help understand common misconceptions for remediation.

5. Communities of Practice and Communication

Teachers have limited opportunities to interact with their peers and with academic support personnel. This limits sharing of resources, experiences and best practices. Often there is information and knowledge asymmetry. The NTP will enable features that include:

- Building virtual communities
- Creating discussions forums
- Sending notifications of events, meetings, announcements
- Sending group and individual messages

6. Teacher Profile on the Platform

Teachers in Schools, Teacher Educators and Student Teachers in TEIs who register on the NTP will have the following online presence:

- A profile with information about their school, subject, grade and other details.
- Complete professional development record, including trainings attended, completed, mastery achieved, feedback from academic support personnel, observation records, suggested training calendar and other information.
- A private workspace to curate resources for their own use and to track progress of their students.
- A reflective journal available to plan for their continuous professional development.

7. Incentivization

In order to encourage and incentivise broader adoption and usage of the NTP, the following shall be incorporated into the platform:

- Gamified indicators such as leaderboards, badges and unlocking of new levels to assist in tracking progress and identifying next steps for users.
- Easy access to news articles, circulars, government policy information and other relevant information.
- Showcase and highlight innovations at the system level as well as teacher innovations in the classroom and teaching methods.

8. Data Analytics

Data is at the heart of NTP and will allow teachers, TEIs, administrative personnel and academicians to draw various insights. NTP will embrace the policy of an open data system, and will allow users and developers to access and analyze the data. The data will enable users to:

- Measure content relevance, effectiveness and engagement
- Measure teacher progress and development
- Enable system recommendations on courses and classroom resources
- Allow for creation of customized dashboards through Open APIs

Benefits of an Open National Platform

Building an open platform is a strategic choice as it allows flexibility in feature enhancements for use cases that were not originally envisaged for the platform. This ensures that the platform does not become a monolithic system and is continuously evolving with the needs of the various stakeholders over time. The following benefits are envisaged for the various stakeholders involved.

For State Agencies

1. States will be able to repurpose, extend, customise and contextualise the NTP depending on their needs.

2. States will be able to avoid duplication of effort and keep development and operational costs low.

3. States can choose to integrate the NTP with their existing systems.

4. DIETs can leverage the NTP to deliver large-scale blended teacher training programs including refresher training, certification for contractual teachers etc.

5. SCERTs and/or state agencies can leverage their tech-savvy teachers to create, curate, translate and/or digitise contextual content on the NTP.

For School Principals, Cluster & Block Level Resource Personnel

6. School principals can lead blended implementation of professional development of their teachers.

7. Cluster & Block Resource Personnel can use standardised observation tools on the NTP to provide coaching support to teachers and do training-needs analysis.

8. School principals may design evaluations on the NTP so that they are able to identify and recognise their best performing teachers.

For Teachers

9. Teachers can take courses on the NTP at their own convenience and drive their professional development.

10. Teachers can consume the curriculum-linked resources on the NTP for class preparation or use them to engage students in the classroom (wherever infrastructure is available).

11. Teachers can generate formative and summative student assessments using the question bank item repository hosted on the NTP.

12. Teachers can discuss professional issues and share best practises with peers and also connect with their academic support personnel through virtual communities on the NTP.

13. Teachers can take self-assessments on the NTP to identify their own strengths and areas of development, and drive their own professional development.

14. Teachers can also create content using the authoring platform on the NTP, and share it with everyone as an Open Educational Resource (OER), adding to the common public good.

15. Teachers will have access to their own personalised workspace where they can plan and deliver classes, track their professional development including courses completed, performance in benchmarking tests etc.

For Teacher Educators in TEIs

16. Teacher educators can use the curriculum-linked resources & courses to deliver blended training for student teachers.

17. Teacher educators can use the item repository on the NTP to diagnose & strengthen the conceptual understanding of student teachers.

18. Teacher educators can use their workspace to curate their teaching learning materials, administer tests to student teachers and maintain a record of their performance over time. Sample videos of classes taken by them can also be uploaded so that prospective student teachers can assess the suitability of a TEI before taking admission.

For Student Teachers in TEIs

19. Student Teachers will be able to take courses on the NTP to prepare for the TET and/or get certified.

20. Student Teachers will be able to use their own workspace where videos from their practice classes, performance in periodic tests etc can will be uploaded. They will be able to showcase their talent to prospective employers sending invitations to view their profiles.

21. Student Teachers will have their own profile that includes the courses they have completed, performance in self-assessment tests, and badges that they may have earned. They can showcase the profile to prospective employers.

**For Content
and
Technology
Vendors**

22. Content vendors can gain visibility and an opportunity to drive usage for their content, by putting their content on a national platform.

23. Technology vendors can innovate and build diverse applications and delivery channels on top of the open NTP based on the needs of the different stakeholders.

**For Any
Organisation
Involved in
Providing
Support to
Teachers**

24. Organisations providing support to teachers can choose to either use the NTP or run their own variants of the open platform and incorporate it into their model.

Role of Centre, State Agencies & Educational Institutions

A number of states around the country have expressed an interest in building technology platforms for their teachers. Instead of each state building something similar in their own silos, the centre will build the National Teacher Platform as a shared infrastructure to be a common public good, thereby providing a huge boost to states by saving time and resources.

State governments have complete autonomy, choice and ownership over design and administration of teacher training and education, while ensuring that nationally set norms are met and student learning outcomes are attained. Since every state has its own curriculum, local context and distinct education system, the NTP will be built in a way that individual institutions and states may adapt it for their own use as required. States can choose to create their own branding for their state specific implementations. They can customize the user interface and experience of their respective state implementations.

Implementation Strategy

The following points give a brief overview of the the proposed implementation strategy for the National Teacher Platform.

Platform Development Strategy

1. MHRD will build and launch the NTP along with a default web and mobile application that states can use off the shelf if they so desire.

2. The NTP will be built with input from states and inviting contribution of private players, nonprofit and civil society organisations.

3. The National Council for Teacher Education (NCTE) on behalf of MHRD will set up a Project Management Unit (PMU) to oversee the overall planning and execution of the NTP.

4. Under the guidance of the NCTE, and with the help of other State and National bodies such as NCERT, NUEPA and others, the PMU will develop the content, technology and dissemination strategy for the NTP.

Content Strategy

5. All resources that are created and contributed to the NTP are potentially OER and are accessible to all other users of the platform.

6. All content on the platform will be screened to ensure that it is relevant for teacher development. A moderation process will be set up to ensure that all content on the platform is accurate, not harmful, not plagiarized and has high utility and potential for impact.

7. Reviewed and certified content on the NTP will be endorsed and available publicly through the NTP interface. Content that is not yet reviewed and approved will be private and only visible from the contributors interface. All content on the NTP will be subject to crowdsourced ratings and commenting by the users.

Solutioning Strategy

8. If the NTP doesn't meet the needs of any state or institution, they are encouraged to repurpose, extend, customise and contextualise the NTP to build their own variants of NTP.

9. States and Institutions may extend and customise the NTP and/or have their own versions of the web and mobile applications to drive varied use cases.

10. Other institutions, groups or individuals that become members of the NTP, can adopt or use the platform to service their client group. This mechanism for crowd participation enables the multiplicity of solutions required at the block and cluster level to be built on top of more standardised solutions and infrastructure at the state and national level.

11. MHRD understands that State governments have different readiness and capability. States will be able to adopt the platform asynchronously, at their own pace. They can onboard features and models of the NTP in varying degrees at varying timelines. States can extend the NTP, build their own content and manage their own creator and curator user communities.

Recommended Steps for States

In order to facilitate the easy contextualisation and adoption of the NTP, NCTE on behalf of MHRD will create model guidelines and templates that States can refer to as they build state-specific NTP implementations.

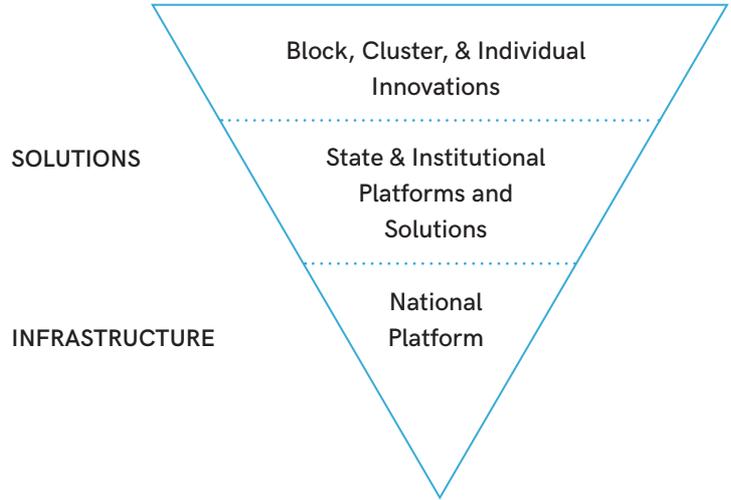
At their end, States need to create a holistic plan that clearly articulates the short-term and long-term goals and outcomes for the State with respect to teacher training, development and support. It would be important for States to note that this is not going to be a one time 'build-once-deploy-everywhere' platform. The NTP will be a multi-year and multi-party platform where its features will keep evolving in an iterative fashion, incorporating feedback from multiple stakeholders over many years. Based on the goals, the plan should detail out many strategies including:

1. Content Strategy

This will ensure all relevant, contextual content becomes available for teachers by taking into account existing state-specific content and building a plan for creation, curation or translation of content by state teachers and potential expert groups.

2. Technology Strategy

This will ensure that the platform is configured and customized for state-specific implementation by considering contextual use-cases and state training processes.



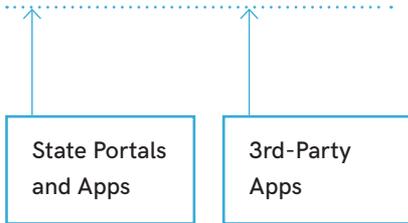
3. Outreach Strategy

This will ensure adoption and sustained usage of the platform by creating suitable policies, rewards and recognition mechanisms, building teacher networks etc.

4. Implementation Strategy

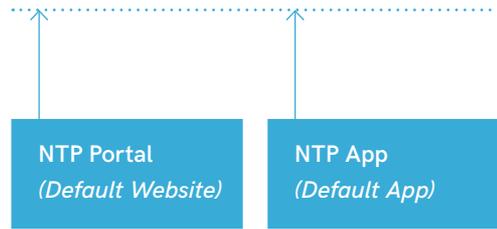
This will ensure that the development and usage of this platform is well managed by staffing a dedicated team of external and internal members who will work closely with state departments and the NTP Project Management Unit.

- States can extend and build their own portals and apps as required
- 3rd-party teacher/tutor apps could be built on top of this using APIs
- Policy makers can consume data

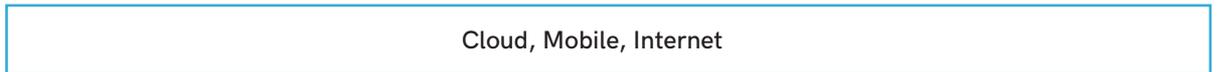


Default user experiences

- Web-based for desktop/laptop usage
- Mobile app-based for smartphone usage, including offline capabilities
- Content consumption, collaboration, creation, curation
- Multi-lingual UI



NATIONAL TEACHER PLATFORM



An API-based platform

- Built on available internet infra and Digital India platforms
- Identity and community management
- Role and course management
- Various types of courses (lesson planning, professional development, subject mastery)
- Peer collaboration and mentoring
- Content creation, curation and translation
- Teacher recognition, leaderboards
- Scholarships, payments
- Extensible by states

Conclusion

The National Teacher Platform will be a large technology-enabled collaborative platform that makes it possible for a massive movement to improve learning of our children to be implemented at scale—so they are able to realise their full potential.

It enables us to unlock and amplify the enormous potential of our teachers and celebrate the rich human capital within India's education system. It has the potential to unlock, transform, amplify and recognise the positive contribution of our most important human resource— "Our Teachers, Our Heroes."

Either by leveraging the NTP directly or by contextualising it, states, schools, TEIs and others can leverage a technology platform such as this to meet the individual professional needs of Teachers in Schools, Teacher Educators and Student Teachers in TEIs and help them deliver on their mandates. School chains and third party teacher capacity building organisations can incorporate the NTP into their own training models. Inspired principals can lead blended implementation of professional development and most importantly, teachers can come together to drive their own professional development.

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