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NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

Teacher Management
and Development

GUIDELINES FOR TEACHER CONTINUOUS PROFESSIONAL DEVELOPMENT FOR RMSA

पढ़े चलो, बढ़े चलो
RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN

RMSA-TCA
Rashtriya Madhyamik Shiksha Abhiyan
Technical Cooperation Agency

RMSA TECHNICAL COOPERATION AGENCY

GUIDELINES FOR TEACHER CONTINUOUS PROFESSIONAL DEVELOPMENT FOR RMSA

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Note on Documentary Series

A series of documents has been produced by RMSA Technical Cooperation Agency for the Government of India's programme to make good quality secondary education available, accessible and affordable to all young persons in the age group of 14-18 years.

The documentary series is arranged as follows:

RMSATCA 0	Programme Management Reports and Documents
RMSATCA 1	National Achievement Survey (Reports and Documents for Thematic Area 1)
RMSATCA 2	Teacher Management and Development (Reports and Documents for Thematic Area
RMSATCA 3	School Standards, Evaluation and Development (Reports and Documents for Thematic Area 3)
RMSATCA 4	Data Management and Use (Reports and Documents for Thematic Area 4)
RMSATCA 5	Results Focused Planning (Reports and Documents for Thematic Area 5)
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1.   Introduction

RMSA teacher professional development should be situated among a broad array of thematic dimensions of RMSA reform. These dimensions provide the focus for the work of RMSA – Technical Co-operation Agency (RMSA-TCA) and include:

- National Achievement Survey (NAS)
- Teacher management and development (TMD)
- School quality (SQ)
- Data management and use (DMU)
- Results-focused planning (RFP)
- Communications and knowledge management (CKM)

RMSA-TCA's contributions are aimed at improving the supportive management systems which provide an enabling environment for schools and ultimately the learner to succeed. Informing effective teacher CPD is essential to this work. Training is an important route to teacher professional development but it is likely to be most successful if strong professional communities of practice exist at the local level. Further, in the contemporary Indian context, CPD and the development of teachers' professional communities of learning and practice can be augmented in significant ways through the effective deployment of educational technology (ET).

2.   Background and Purpose

2.1   Purpose

This document presents a set of guidelines for teacher continuous professional development (CPD) for RMSA in India that integrates the use of educational technology (ET) as a means of enhancing secondary school teacher professional development.

The guidelines presented here centre on the concept of CPD and the development of professional communities of learning and practice at the local school/or in clusters of schools. CPD implies a necessary continuous focus of improving teacher's subject knowledge and pedagogy based on identified gaps as well as requirements of changing times in educational policy and practice and suggests that improvement of teaching is largely responsibility of teachers and schools. Traditional one-time training programmes have been proven to be ineffective with moderate to poor learning outcomes, and limited transfer of knowledge and skill to the school and classroom.

The purpose of these guidelines is twofold:

i.   To provide guidance at school/block, district, state and central level in programming, designing, and implementing teacher CPD programmes that fulfil the objectives of the RMSA and national and state education policies; and

ii. To explore effective ways of deploying ET in CPD programmes and use in classrooms.

2.2   Audience

Functionaries and Educators of the Indian educational system working in school/cluster, district, state and central level.

2.3   Objective

To (i) provide guidance at central, state and district levels in programming, designing, and implementing in-service teacher continuous professional development (CPD) programmes that fulfil the objectives to increase effectiveness of classroom practices to influence student learning and relates to the priorities of RMSA and national and state education policies. (ii) To explore effective ways of deploying ICT in CPD programmes and use in classrooms.

2.4   Background and Rationale

This document follows a national formative evaluation of RMSA teacher in-service education in India which identified a range of limitations and suggested improvements in the current approach to teacher professional development. The review focused on RMSA in-service training implementation and preliminary impact on teachers' learning and practice. Many of the recommendations from that evaluation focused on incremental improvements to the current approach to RMSA teacher in-service training. These recommendations focused on processes for planning, needs assessment, in-service implementation and delivery and follow up monitoring and evaluation of training. Yet, salient among the identified limitations in the current approach was a lack of development of professional community

among teachers returning to their schools and the absence of a sense of ongoing CPD. Additionally, the effective use of ET in training was found to be variable and somewhat confounded by ICT resource availability and use within the schools.

Focus on school-based CPD

RMSA teacher professional development would benefit from a more holistic view of professional development, one that implicates the school/block as the principal locus of activity and change. In order for such change to come about, an ecological perspective is warranted with identified roles and expectations at the school/block, district, state and central levels of educational governance. We learned from the Teacher Training Evaluation report (2015) review conducted by NCERT in partnership with TCA that teacher in-service practices internationally and exemplary practices in India have embraced the concept of ongoing CPD as the preferred mode to powerful and sustainable teacher in-service training. Implicated in the development of effective CPD programmes is the considered application and use of ET.

Existing ET practice in India and elsewhere

Many Indian states are considering introducing ET as part of RMSA plans. They are facing dilemmas on investment and have to ensure cost-effectiveness. Introducing ET for teachers is not easy, as many teachers have little exposure to or knowledge of the ET in the first place.

The Centre for Information and Educational Technology (CIET), part of the NCERT is operating a digital National Repository of Educational Resources (NROER)1. A much enhanced NROER is presently being developed that will provide a wider range of high quality digital content, which will have to find its way into CPD programmes and classrooms.

India has an overall low but varied penetration of ET in schools. In most government secondary schools, internet connectivity is non-existent or poorly accessible. However, both the scenario in India and available technology is changing quickly, and there are off-line options that have proven to be effective. This gives new scope for innovative initiatives. Two examples are the following:

- On-going TESS-India[2] aims to *encourage student-centric, active teaching and learning pedagogies*. Digital Open Educational Resources (OER) are a part of the package and are, in principle, available.

- As part of RSMA, in Karnataka, ICT for Change has created the Karnataka OER and developed various supportive mechanisms such as subject teacher forums (STF) based on email groups and a web portal[3].

There are various other experiences in India and South Asia, listed in the recent study published by the British Council (2015). The integration of ET into CPD programme development has enormous potential to enrich the scope and reach of CPD in schools throughout the Indian education system.

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[1] nroer.gov.in.
[2] www.tess-india.edu.in
[3] http://karnatakaeducation.org.in/KOER/en/index.php/Main_Page

The next sections briefly review and justify principles for the development of CPD programmes for teachers and for the integration of ET into these programmes. These principles provide the basis for guidelines for action at the school/block, district, state and central levels that follow.

3.   Principles for Developing CPD Programmes

We drew from a range of sources to support the development of principles to guide the development of CPD programmes for RMSA. These include:

- A recent national formative evaluation of RMSA teacher in-service training
- a major rigourous literature review sponsored by the Department for International Development, UK (DfID) focused on pedagogy, curriculum, teaching practices and teacher education in developing countries (Westbrook et al., 2013);
- a guide to what we know about the relationship between educational technology and educational outcomes, compiled by the Health and Education Advice and Resource Team (HEART) and sponsored by DfID (Power, Gater, Grant, & Winters, 2014)
- a global review and integration of research and practice on teacher professional learning communities (PLC) and collaborative inquiry (CI) sponsored by RMSA-TCA (Cousins & Al Hudib, 2015)
- A policy brief on international evidence on teacher professional development (English in Action, 2015)

3.1   Supportive Factors from Teacher Education in Development Contexts

Westbrook et al.'s (2013) comprehensive review and integration of literature on teacher education in development contexts provides considerable fodder for the development of pre-service and in-service programmes. The authors identified four key supportive factors that are particularly relevant to CPD but also have implication for the harmonization of pre- and in-service teacher education by preparing new teachers for CPD as they transition into the world of practice.

1. Professional development that is aligned with classroom practices, with **follow up support and monitoring** including lesson modelling, constructive feedback on practice and discussion.

2. Formal and informal **peer support** in clusters or schools. Such support is focused on the introduction of new classroom practices and innovation and takes the form of joint or reciprocal observation, collaborative lesson planning, and resource sharing.

3. An important supportive factor is **head teacher support** which implicates building awareness and providing support for new and innovative methods of teaching, and liaising with the school community as additional support.

4. Professional development is **aligned with curriculum and assessment** as coordinated within the school and guided by district, state and national policy.

It should be fully appreciated these factors are not understood as a menu from which to pick and choose. Rather they should be considered as an interconnected set.

3.2   Professional Learning Communities

The development of Professional Learning Communities (PLCs) at the school/block level is essential to effective CPD (Cousins & Al Hudib, 2015). The development of PLCs at the school level has been embraced globally as a strategy to enhance teachers' continuous professional learning. A PLC is defined as a group of educators that meets regularly, shares expertise, and works collaboratively to improve teaching skills

and the academic performance of students. Research has yielded a range of characteristics and factors associated with effective PLC development and operations. These are categorized and summarized as follows:

1. **Clarity of Purpose:** Aligned values, culture and action; shared norms and values; shared values and vision
2. **Focus on Learning:** Explicit expectations for learning for students and staff; collective focus on student learning; group and individual learning
3. **Collaboration:** Collegiality, collaborative problem solving, collective application and learning
4. **Collective Responsibility and Commitment:** Networked linkages (school and community); high quality relationships; collective responsibility
5. **Supportive Conditions:** Supportive leadership; shared leadership; supportive physical and human conditions
6. **Action Orientation:** Risk taking; de-privatization of practice; shared personal practice
7. **Reflection and Evaluation:** Time for reflection; reflective dialogue; reflective professional inquiry

3.3   General guidelines for CPD Development

From our own experience and professional wisdom we have identified additional principles that support the development of CPD for RMSA teacher in-service. These are:

- **Face-to-face sessions should be limited in number and focus on processes of CPD and classroom practice**. It is not desirable to take many teachers out of schools for an extended period of time for training as this creates gaps of teaching in schools. Long training programmes are also expensive and not particularly effective in terms of learning outcome.

- **CPD should focus on improving classroom practice** Serious teacher subject knowledge gaps cannot be overcome by subject training and refreshers CPD including subject knowledge upgradation should become a self-sustaining through promoting self-learning, PLCs, other forms of peer support, clubs, ICT-aided distance learning courses, and so forth.

- **Model of 'cascade' in-service training approaches the risk of serious transmission loss. If opted these should be offset by collaborative learning processes and effective training materials.** In the Indian educational context, some sort of 'cascade model' is inevitable as the approach has the potential to reach large numbers of teachers quickly, it is cost-effective, and it can be monitored systematically. The shortcomings of the cascade approach can also be compensated by strong and effective roles of resource persons, facilitators, school management, adequate monitoring and feedback, and so forth.

- **Effective CPD requires substantial preparation and organization time**. Given the array of considerations and processes required for effective CPD development – including needs analysis, design, mobilizing technical/ academic assistance, materials, piloting, evaluation, redesign, capacity development – at least 1 ½ to 2 years lead time is needed. Such development can occur in parallel with ongoing conventional approaches to teacher in-service training in a transitional period and states and districts can use the time to get more detailed information about the teacher population and to identify and plan for the most appropriate target group.

- **Effective CPD needs to balance meeting specific needs against efficient use of resources**. It is recognized that existing teaching capacity and needs vary greatly across schools and districts, and CPD should be tailored to specific needs. At the same time, there is a need to standardize CPD programmes to some extent as a certain scale is needed for material development, quality assurance and effective training of trainers.

3.4   Integrating Educational Technology into CPD

There is a growing body of compelling evidence to show that ET has strong potential to enhance teachers' CPD particularly when integrated with ongoing professional development programmes. This can happen by (i) providing digital content and/or ICT equipment as part of CPD design and delivery and (ii) the integration of classroom-based ET applications into CPD programmes. This section summarizes principles for integrating ET into teachers' CPD.

Audio-visual materials and enabling technology can be considered a success factor in CPD, particularly when the scale is large as is the case in Indian states (Power et al., 2014). Innovative roles and applications for offline (or online) audio-visual (AV) and print materials enable economy of scale and impact without reliance on national or international subject experts beyond material production. CPD and classrooms are mostly depending on audio-visual material on devices. Curriculum expertise and lesson modelling can be provided through the AV materials, and used in teacher and facilitator development activities carried out with peer support at local meetings and in school.

Power et al. (2014) provide a list of evidenced-based characteristics that effective ET programmes should take into account:

- **prior needs analysis** including local stakeholder consultation;
- a **clear and specific curriculum focus** (e.g. communicative language learning, early literacy or remedial mathematics);
- the use of **relevant curriculum materials** (classroom audio, video, eBooks, research resources, radio programmes);
- a **focus on teacher development and pedagogy**; and
- **evaluation mechanisms** that go beyond outputs to look at outcomes in terms of changes in teaching and learning practices, or learning outcomes.

These principles are entirely consistent with the CPD supportive factors described above. ET should focus more on enabling educational change, and less on merely delivering technology. In doing so, programmes that provide adequate support for teachers, and aim to assess changes in teaching practice and learning outcomes have a higher chance of success, and are well-positioned to inform progress toward identified goals.

The interactive capability of platform such as NROER can be exploited to develop tailor-made materials suited to state-specific contexts.

We now consider some practical and concrete options for CPD, including those which are ET based. Afterward, we lay out some guidelines for actors at various levels of the Indian education system to bring about effective, sustainable CPD on a large scale.

4.   CPD Practical Options for Consideration

4.1   CPD Options: Moving beyond conventional training

CPD departs from traditional approaches to teacher in-service training in significant ways not the least of which is the requirement that teachers take ownership for their own development, but with the required facilitation and support. Table 1 provides a range of professional development options that can be integrated into CPD programmes and the establishment of PLCs. The list is based on a comprehensive review by Guskey (2000). The professional development options in this list implicate not just identified strategies for change in teachers' classroom practice but also in their use of evidence to support PLC decision making along the way.

In the Table we can see that options for CPD are many and quite varied in terms of scope and interests, as well as potential costs and feasibility. From the menu of available choices conventional training, the current dominant approach in RMSA teacher in-service, is the first listed. Clearly training on a large scale will always be of value in a system of teacher in-service particularly in the context subject knowledge development and the introduction to new, innovative teaching approaches and techniques. Yet despite its prevalence, conventional training is potentially among the least effective approaches to CPD. This is particularly the case if such training relies on a one-way transmission of knowledge and skill development. As Guskey identified, there is frequently a need for follow up in terms of supplementary training and coaching.

Evident in several of the other approaches are elements of opportunity for teachers to practice newly learned skills and to receive feedback on such practice from coaches, mentors and even peers within a co-learning framework. Observation / assessment implicate teachers in breaking down of norms of teaching as an individualized, isolated activity; teachers necessarily welcome headmasters and peers to observe, describe, comment on, and critique their teaching in an honest and collegial way. Mentoring, which generally involves the development of a professional relationship over time, would usually involve elements of observation and assessment. Such strategies depend on a high level of trust between the observer (mentor, peer, headmaster) and the observed (teacher). Teachers working in PLCs necessarily embrace this collegial ethos; at some level collegial ethos weaves its way through most of the remaining CPD options listed.

Table 1: CPD Practices: Advantages and challenges (from Cousins et al., 2015)

Method	Advantages	Challenges
Training: Presentations, workshops, demonstrations, simulations, discussions, seminars, colloquia, etc.	- Efficient for sharing information with large groups - Shared knowledge base and vocabulary	- Little individualization or choice - Frequent need for supplementary feedback and coaching
Observation/Assessment: Observation and receiving of feedback (e.g., peer coaching and supervision)	- Positive impact on the observer and the observed through discussion and feedback - Reduction in isolation	- Requirement of trust, investment of time and separation of observation and evaluation - Requirement to be focused and well planned
Improvement Processes: Curriculum / program development or review, implementation of new instructional strategies, problem solving	- Enhancement of knowledge and collaborative capacity - Investment in these processes generally as a result of the local context.	- Possible involvement of small groups - Possible tendency to adhere to tradition and eschew innovation - Requirement of access to research to guide decisions/actions
Study Groups: Studies related to common issues or concerns (possibility that several groups are studying different aspects of the same issue)	- Reduction in isolation, building professional community, increase in the level of focus and coherence of learning including emphasis on ongoing learning	- Variation in the level of individual involvement, possibly as a result of discouragement by dominant members - Possible shift away from a focus on research to a focus on opinions
Inquiry/Action Research (AR): Five-step AR process for selecting a problem and determining an appropriate course of action	- Tendency to build knowledge and increase problem-solving skills, empowerment of teachers in their practice and learning, enhanced facility with evidence	- Requirement of significant investment of individual effort, initiative and time
Individually Directed Activities: Identification of individual needs in order to create a personal plan and assess the success of the plan	- Flexibility, choice, individualization, orientation towards personal reflection and analysis	- Possible "reinvention of the wheel" or 'symbolic,' repetitive work if there is a lack of collegial sharing - Possible weak connections to other areas of professional development
Mentoring: Regular meetings of more and less experienced pairs in regard to practices and opportunities for improvement	- Tendency for both individuals to learn from the process to become more meta-cognitive and to develop enhanced communication skills	- Requirement of time and resources, as well as connections with other learners or with school plans and initiatives

Improvement processes, for example, implies that teachers work together to develop or evaluate identified curriculum and instructional strategies. This can happen at the small group level or even at the level of the school and beyond and is often problem-based.

The concept of feedback on practice is part and parcel of thinking about the CPD in the context of PCLs. In PLCs inquiry minded educators (teachers, headmasters) work collaboratively on projects of mutual interest often supported by evidence-based knowledge. This can take the form of published research as would be the case in *study groups* and often, *individually directed activities*. But the evidence-based knowledge can also emerge from the analysis of data gathered systematically to track the implementation and effects of new instructional strategies or initiatives. By definition *inquiry / action research* is an example of this form of inquiry.

In reviewing the challenges associated with many of these examples, it becomes clear that strong commitment on the part of teachers and headmasters and the availability of support and resources is integral to their success.

The options that we have reviewed so far, particularly those which extend beyond conventional training, implicate collegial work, usually at the school or block level. It is important to recognize that the integration of ET into CPD has the potential to not only enhance these locally-based activities but to extend teachers' professional reach well beyond their own school context.

4.2   ET Options for Consideration

The large scale distribution of laptops or tablets, and provision of computer suites in schools have, so far, met with disappointing results Power et al. (2014). The link to children's learning outcomes is not usually envisioned in a hardware-driven approach. Essential supporting factors cannot be ensured if those are not consciously addressed alongside the provision and distribution of hardware. Similarly, limited access and ability to use ET for CPD or teaching purposes, as is many times the case, is not likely to promote effective use either.

Needed are ET options that can be integrated into the development and implementation of CPD programmes either in terms of CPD design and delivery or at the level of classroom applications. Such options are becoming much more readily available in the Indian context.

For example, it is the intention of the NROER to mainstream validated digital content and manage it for the benefit of the Indian school system. The interactive capability of this platform can be exploited to develop tailor-made materials suited to state-specific contexts. These materials can be used both in in-service training contexts or they can be integrated to school-based CPD initiatives. Essential, however, is the inclusion of a focus on learning outcomes, both in terms of changes in teaching and learning practices, and ultimately student learning benefits.

In India and elsewhere, there exists a range of ET options that have been demonstrated to have a positive association with learning outcomes. Some examples are:

- Feature phones with off-line content (CPD videos and classroom audio amplified by a portable speaker in 'English in Action,' Bangladesh)[4]
- Provision of suitable texts E-readers for in classroom use and self-study of children (e.g., Kenya, Tanzania)[5]
- Interactive radio instruction (elaborated descriptions and sources identified by Power et al., 2014)
- Mobile telephones for classroom video (elaborated descriptions and sources identified by Power et al., 2014))
- A range of options associated with distance education approaches for teacher training[6]

There exist many more options with mixed or unknown outcomes, which can be located from the sources referenced in this document.

Through careful consideration of options against challenges and opportunities specific to context, stakeholders on different levels can make better informed decisions about the effective integration of ET into CPD. Alongside CPD, ET needs at least a medium planning horizon to be able to design, develop and implement a programme that will, in the end, make a meaningful contribution to better and more relevant learning for Indian secondary school students.

Having reviewed and summarized from an array of sources important considerations for CPD in the Indian context, we now turn to the application of these principles at various levels within the educational system.

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[4] www.eiabd.com
[5] Primary Math and Reading (PRIMR) Initiative in Kenya
[6] EDC (2011) http://idd.edc.org/resources/publications/modes-models-and-methods

5.   Roles for School, District, State and Central Actors

We integrated the foregoing review into a coherent set of principles to guide the development of RMSA teacher CPD. The integrated set appears in Table 2 alongside respective implications for school/block, district, state and central actors in the Indian education system. In moving forward we take an ecological perspective for RMSA teacher CPD with the school as the principal locus of change but understood to be the centre of a multi-levelled system.

It may be argued that classroom practice is the mechanism through which student learning will be enhanced (Cousins & Al Hudib, 2015). As such it is clear that defining the nature and intensity of change depends greatly on local (i.e., school-level) contextual considerations; variation in context for classroom practice must be integral to sustainable systemic change. But systemic change in educational practice requires coherent, logical, well communicated direction from district, state and central actors. Direction from such change channels is received, interpreted, buffered, modified, adjusted and otherwise adapted to the local context of the school and it is this interpretation on which, intended change in teaching and learning practice and student outcomes depends. The school therefore plays a mediating role and is the essential 'unit of analysis' for change in national approach to CPD.

In developing these implications we use a backward planning approach. The school is the ultimate focus for the development of teacher PLCs and the locus for ongoing CPD. We therefore consider principle-based actions at this level first and then move backward through district, state and central levels.

Principle/Supportive Factor	School / Cluster	District	State	Central
1. Planning and conceptualization: Clarity of purpose/Focus on learning/ collaboration / deciding desired outcome	-consider policy objectives for school priorities. -consider potential collaborations among schools and others	-ensure policy objectives understood -organize needs assessment -analyse capacity; determine and agree responsibilities	-ensure policy objectives understood -organize needs assessment -identify and involve stakeholders in planning -analyse capacity; determine and agree responsibilities -seek supportive collaboration with others	-communicate policy objectives -Align AWP&Bs -create national framework for RMSA CPD -identify and involve stakeholders in planning -analyse capacity; determine and agree responsibilities
2. Define expected learning outcome indicators for teachers and students (change in the classroom)	Provide information on learning gaps and status of pedagogy in schools.	Aggregate and provide information on learning gaps and status of pedagogy in schools.	Define expectation of learning (being developed under NCERT's learning indicators) Define/communicate desired changes in pedagogy/classroom practice	Define expectation of learning (being developed under NCERT's learning indicators) Define/communicate desired changes in pedagogy/classroom practice
3. Needs assessment	-coordinate needs assessment in schools -identify/communicate need and demand for subject knowledge and instructional methods.	-coordinate needs assessment in selection of schools -analyse/communicate findings -provide evidence of CWSN and low SES groups	-analyse state-level gaps of teacher competence -analyse/communicate NAS outcomes -analyse/communicate teacher feedback survey -engage research community	-analyse/communicate NAS outcomes -identify/access other sources for analysis -engage research community

| Principle/Supportive Factor	School / Cluster	District	State	Central
4. General CPD programme design	-consider school-based CPD options; communicate to district -nominate RP candidates	-identify and promote suitable training transaction techniques -analyse school-based CPD resource requirements	-encourage broadened array of training transaction techniques -encourage school-based CPD activities -ensure CWSN/low SES objectives in CPD design	-encourage broadened array of training transaction techniques -encourage school-based CPD activities
5. Effective CPD materials development (for teachers and for students)	-provide input for materials development ensure budgeting for procurement -participate in field tests of materials	-provide input for materials development -monitor use, procurement, distribution of materials -coordinate field tests materials	-develop CPD manuals with detailed process guidelines -identify/develop practice-based materials -ensure RMSA priorities are integrated into training modules	-ensure RMSA priorities are integrated into training modules -emphasize need for good training material; enable development.
6. Fair and effective teacher selection.	-promote CPD as ongoing teacher responsibility -systematize teacher deputation processes -ensure accurate reporting	-collect information on teacher competencies -systematize teacher deputation processes -assure data quality and communication	-gather/analyse teacher competency data -systematise teacher deputation processes -collect teacher data in EMIS	-provide exemplar processes and section criteria
7. CPD programme alignment with curriculum and identified gaps	-ensure/communicate CPD alignment with local priorities and national curriculum	-follow up with schools as needed -assess/communicate to state CPD curriculum alignment	-ensure CPD programme design alignment with existing curriculum -influence curriculum reform based on CPD results	-set general principles for CPD curriculum alignment -communicate curriculum updates and expectations

Principle/Supportive Factor	School / Cluster	District	State	Central
8. CPD programme alignment with formative and summative assessment practices	-ensure/communicate CPD alignment with CCE practices -provide feedback on CCE and summative assessment system	-follow up with schools as needed -assess/communicate to state CPD - CCE alignment	-ensure CCE and summative assessment integrated with CPD programmes. -ensure state summative assessment aligned with RMSA learning goals	-set general principles for assessment and promote policy objectives for assessment reform -promote assessment of RMSA learning goals
9. CPD staff / facilitator/ trainer identification and development	-nominate KRP, RP candidates	-develop and manage fair selection processes for KRP, RP	-inform development of fair selection processes for KRP, RP.	-develop guidelines for fair selection of KRP, RP.
10. Head teacher / principal support	-HT to facilitate/support PLCs and ongoing school-based CPD initiatives	-develop and manage HT instructional leadership programs. -include HT in teacher CPD training activities	-develop and promote HT instructional leadership programs	-provide guidelines and exemplars of instructional leadership role in CPD
11. Classroom- and school based CPD assurance	-promote inquiry-based, collegial CPD options -ensure alignment with local priorities	-facilitate classroom- and school-based CPD options -promote school cluster interaction	-ensure classroom and school-based follow up to CPD training activities -model effective practice	-provide guidelines and exemplars of classroom- and school-based CPD
12. Professional learning community establishment	-establish school or multi-school PLC with focus on CPD -consider collaboration with local organizations	-monitor establishment of PLC -consider collaboration with local organizations	-promote the establishment of PLC -provide exemplars of school and multi-school PLC	-provide guidelines and exemplars of school or multi-school PLC
13. Efficient management and logistics	-SMC/HT enable and promote participation in CPD -where needed secure and provide financial support	-enhance coordination among state and district organizations -schedule CPD training programmes strategically	-enhance coordination among state and district organizations -schedule CPD training programmes strategically	-approve and disburse RMSA teacher in-service funds in timely manner

Principle/Supportive Factor	School / Cluster	District	State	Central
		-judiciously select venues -manage expense reimbursement system	-assist with judicious venue selection -develop expense reimbursement system	-provide exemplar practice on logistic processes, teacher expense reimbursement
14. Monitoring system	-HT and teachers facilitate classroom monitoring and provide mentoring/guidance. -HT and teachers provide informal feedback on CPD initiatives and training follow up.	-assist in the development of quality assurance mechanisms and data base reconfiguration -implement quality assurance, including formal feedback and follow up mechanisms.	-establish quality assurance mechanisms -augment EMIS / HRMIS to capture CPD initiatives at various levels. -monitor training implementation and make adjustments -establish formal feedback and follow up mechanism	-develop national in-service training monitoring system -monitor and adjust CPD training implementation -provide guidance on data aggregation requirements -provide exemplar practice of monitoring formats. -aggregate data and communicate adjustments where needed
15. Reflection and evaluation	-provide access to classrooms and respond to data requirements -consider evidence and incorporate into CPD cyclical planning	-interpret monitoring evidence and follow up. -identify and coordinate CPD programme evaluation priorities	-establish monitoring analysis and reporting system -prioritize and commission independent evaluation of CPD programmes	-provide guidelines and measurable indicators of success, capacity development -organize periodic national evaluation of CPD programmes based on state-level data.
16. Research	-encourage school- and classroom based CPD inquiry -provide access to data sources for state-level evaluations of CPD	-facilitate research initiatives through data collection and processing -encourage schools/clusters in action research initiatives.	-engage with research community to coordinate action research on CPD programmes -implement state-level impact evaluations of CPD	-analyse across evaluations -engage with research community to identify 'what works' inquiry projects -provide guidance on impact evaluation. processes/ designs.

Principle/Supportive Factor	School / Cluster	District	State	Central
17. Incentives/recognition/ certification	-HT/lead teachers to manage local performance data for teachers, CPD initiatives -assist in the identification of candidates for recognition	-identify and nominate teacher candidates for formal recognition -assist with compilation of nomination cases	-establish system of formal teacher recognition -broadcast/celebrate best practice -establish incentive system for innovative evidence-based CPD approaches	-establish system of formal teacher recognition -broadcast/celebrate best practice -establish incentive system for innovative evidence-based CPD approaches

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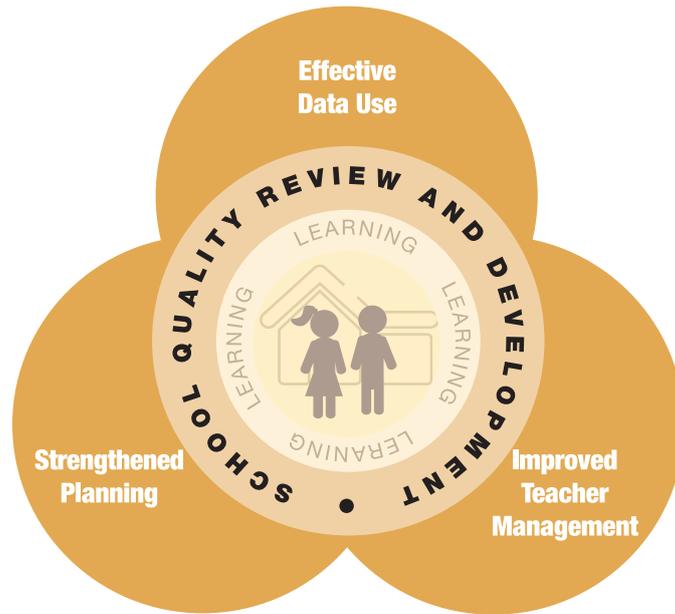
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Secondary Education Enhancement Programme

Contact

Room No. 308 - 313, Central Institute of Educational Technology (CIET), NCERT, Sri Aurobindo Marg, New Delhi -110016 INDIA

+91 11 26569925 | contact@rmsatca.org | www.rmsaindia.org