

CONTINUOUS PROFESSIONAL DEVELOPMENT OF TEACHERS WITH WEB PORTAL AND MOBILE APPLICATION

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It is generally observed that a teacher needs quality pre-service and in-service education to become more mature and confident to perform their task more efficiently and effectively. The cascade model of In-service Teacher training has a problem of information loss and speed of scaling to reach the mass. ICT plays a significant role in the continuous professional development of In-service teachers. The Curricula for ICT in Education (2012) broadly attempts to equip teachers with ICT competencies to strengthen their own professional capacities and to effectively use ICT tools and devices in their teaching-learning. The online courses teachers in the subject areas, pedagogical concerns and ICT hosted on various Web portals like ICT curriculum Website (<http://ictcurriculum.gov.in/>), NCERT Web portal for In-service Teacher Professional Development (ITPD) courses (<http://itpd.ncert.gov.in/>), SWAYAM portal (swayam.gov.in) for Massive Open Online Courses (MOOCs), DIKSHA Web portal (<https://diksha.gov.in/>) etc., and several Mobile Applications like ChalkL it, specially designed for teacher education and training, are solving the purpose of Teachers' continuous professional development. Recently, National Initiative for School Head's and Teachers' Holistic Advancements (NISHTHA), an integrated teacher training of nearly 42 lakh teachers in the country is almost completed. ICT supported the training by providing educational resources to teachers through a dedicated Web portal (nishtha.ncert.gov.in) and mobile app anytime anywhere and handhold the learning of teachers during training as well as monitored the complete training programme.

Key words: *Continuous Professional Development, ITPD, ICT, MOOC, SWAYAM, DIKSHA, NISHTHA*

Introduction

The quality of citizens' life in a country is significantly determined by the quality of education they receive. The quality of their education depends on their teachers. It is generally observed that a teacher needs quality teacher education before joining the service as well as quality In-service Teacher Professional Development to become more mature and confident to perform his/her task more efficiently and effectively. The traditional method of In-service teacher training is based on cascade model. This model of training has observed problem of information loss and it is very difficult to reach each and every teacher with in a short period of time.

Further new development in Information and Communication Technology (ICT) and its increasing availability put high demand on teachers to integrate ICT into their teaching and learning. Teachers entered the workforce need not only to be equipped with the skills to use those new technologies, but also to be flexible, adaptable, and multi-skilled.

Continuous Professional Development of Teachers with ICT

It is widely accepted that ICT has potential to introduce and sustain education reform efforts towards making a world class citizen. Further, ICT is becoming integral part of the society; most of our young population is

using ICT in one way or another and we dare to predict that the use of ICTs will increase very fast in future. Similarly majority of our youth learners are learning through ICTs like learning through online learning platforms, social networking platforms and mobile applications, etc. Such kind of uses of ICT in the society is creating the demands for on-going professional development of teachers. ICTs can be important tools to support meet such increased needs, by helping to provide access to more and better educational content, aid in routine administrative tasks, provide models of effective teaching practices, and create learner support system, both in face to face and distance learning situations. Planning for teaching-learning through digital tools, presenting content in digital forms, communicating with learners and peer learners with ICTs and assessing learner's performance digitally are some examples of ICT integration in teaching and learning.

Several initiatives related to professional development of teachers through ICT have been taken. Some of the major initiatives are as follows:

Online Course Platforms

Internet may provide a large number of online learning opportunities as one can access educational content, interact with teachers or experts, discuss with peers and can learn in online courses, etc. The online learning platform may supply the reading materials as well as opportunity to post your learning. Following are some examples of online learning platforms:

- NCERT ICT curriculum portal (www.ictcurriculum.gov.in)
- NCERT ITPD portal (itpd.ncert.nic.in)

- SWAYAM (swayam.gov.in)
- NISHTHA (nishtha.ncert.gov.in)
- DIKSHA (diksha.gov.in)

and some others as follows:

- The Open University, London
- Commonwealth of Learning - <http://cctonline.org/>
- Khan Academy - <https://www.khanacademy.org/>
- Sailor - <https://learn.saylor.org/>
- EdTech Leaders Online - <http://www.edtechleaders.org/>
- iEARN - <http://www.iearn.org> and so on.

NCERT Online In-service Teacher Professional Development Courses

Teachers need continuous content and pedagogic enrichment to address the diverse needs of children in their classrooms so that their learning outcomes will be improved. NCERT is developing and offering various online Teacher Professional Development courses that provide teachers an opportunity to get online training as per their need and time with continuous mentoring support from the experts in the field. These courses may help teachers in developing their reflective skills and improve teaching in the classroom. The course integrates concerns regarding gender, adolescent learners, ICT, etc., along with subject specific content. This course was offered for science teachers at the upper primary and secondary stages and for Environmental Studies for teachers at the primary stage. Each module of the course contains video about the module, text, assessment questions and links for extended

learning. Besides, an online course on action research for teachers is being conducted at regular intervals in the MOODLE platform (<http://ictcurriculum.gov.in/course/index.php?categoryid=125>). Post Graduate Diploma in Guidance and Counseling for in-service teachers is also offered through the same course portal.



Fig. 1: NCERT ITPD Web portal

Courses based on Curricula for ICT in Education

For the teacher, it is an initiation into—exploring educational possibilities of technology, learning to make right choices

of hardware, software and ICT interactions and Growing to become a critical user of ICT. The curriculum is rolled out as a series of short courses. Three induction and 20 refresher courses leading to a diploma in ICT in Education is proposed.



Fig. 2: ICT Curriculum Web portal

MOOCs on SWAYAM

Online education has been around for a long time. But Massive Open Online Courses (MOOCs) have made online learning more significant and meaningful. The term MOOC was used for the first time by Dave Cormier in 2008. Conceptually, MOOCs refer to massive, open and free courses. There are several platforms across the world such as edX, Coursera, Khan Academy, Udemy, Canvas, Futurelearn, Udacity and NPTEL and SWAYAM from India that offer online courses for the mass. There are several benefits of MOOCs for professional teacher development. Firstly, MOOCs offer increased exposure for teachers to OER resources. Secondly, these courses use blended learning and flipped classroom approach to improve the teachers' academic understanding and that they can then bring into their classrooms. Thirdly, the professional network of teachers increased drastically with the use of such courses that can include participants from all over the world. Professional development of teachers through MOOCs is creating a community for learning with like-minded peers across the globe. This trend of community building and exchange of ideas, best practices, and lessons learned is also increasing significantly.

Ministry of Human Resource Development (MHRD), renamed as Ministry of Education, Government of India has launched a MOOCs platform popularly known as SWAYAM (Study Webs of Active learning for Young Aspiring Minds) on 9 July, 2017. The portal offers online courses for students, teachers and teacher educators from school education and higher education to promote quality education and lifelong learning. SWAYAM is intended to achieve the three important

principles of Education Policy viz., access, equity and quality. It is aimed to provide the best teaching learning resources and academic support by the best minds across the country to all learners including the most disadvantaged. SWAYAM is hosting more than thousands courses, starting from Class XI till post-graduation courses that can be accessed by anyone, anywhere at any time. These courses are interactive in nature and available, free of cost to all. The best teachers across the country are engaged in creating these courses to provide the quality learning. SWAYAM adopted four quadrants approach in these courses considering the essential components in face to face classroom teaching-learning.

- The first quadrant is video lecture along with transcription that is similar to the teachers' presentation in face-to-face classroom situation.
- The second quadrant is e-content that is specially prepared reading material that may include PDF, Text, e-Books, Illustrations, documents and interactive simulations including Web links, Wikipedia, open content, etc.
- The third quadrant is self-assessment through tests and quizzes and
- The last quadrant is an online discussion forum for clearing the doubts.

In order to ensure best quality in these courses, a detailed guideline to create and run MOOCs are developed. Further, national coordinators have been appointed to ensure and sustain the quality of these courses on SWAYAM. As one of the national coordinators, NCERT is developing and running courses for students and teachers in school education.

In order to ensure that best quality content are produced and delivered, seven national coordinators have been appointed: They are NPTEL for engineering, UGC for post-

graduation education, CEC for under-graduate education, NCERT and NIOS for school education, IGNOU for out of the school students and IIMB for management studies.



Fig. 3: SWAYAM portal

NISHTHA

NISHTHA - National Initiative for School Heads' and Teachers' Holistic Advancement is an initiative to build capacities of teachers and school principals at the elementary stage. The programme aimed to build the capacities of around 42 lakh participants covering all teachers and heads of schools at the elementary level in all Government schools, faculty members of State Councils of Educational Research and Training (SCERTs), District Institutes of Education and Training (DIETs) as well as Block Resource Coordinators and Cluster Resource Coordinators in all States and UTs. This

programme is organised by constituting National Resource Groups (NRGs) and State Resource Groups (SRGs) at the National and the State level who are training 42 lakhs teachers subsequently. A robust portal— Management Information System (MIS) for delivery of the training, monitoring and support mechanism will also be infused with this capacity building initiative.

Highlights of NISHTHA Web portal and Mobile App

The web portal made the course modules accessible anytime, anywhere free to everyone. The course materials include modules in pdf format, panel discussion

on the module theme in video format and presentation in ppt format. The Web portal has also other Web resources in different formats like documents, images, audio, videos and interactive hosted on various Web portals such as NROER, ePathshala and DIKSHA, etc. The NISTHA Web portal facilitated teachers' learning during training by providing course modules as well as other supplementary e-resources followed by the opportunity to discuss with resource

persons using discussion forum on the Website. The training is also monitored using the Web portal and the details of the training programme including training date, place, teachers and resource persons, etc., shared in the dashboard on the Web portal. The portal also has the features of sharing the photos and videos of the training, news clips and best practices of teachers during training and after training.

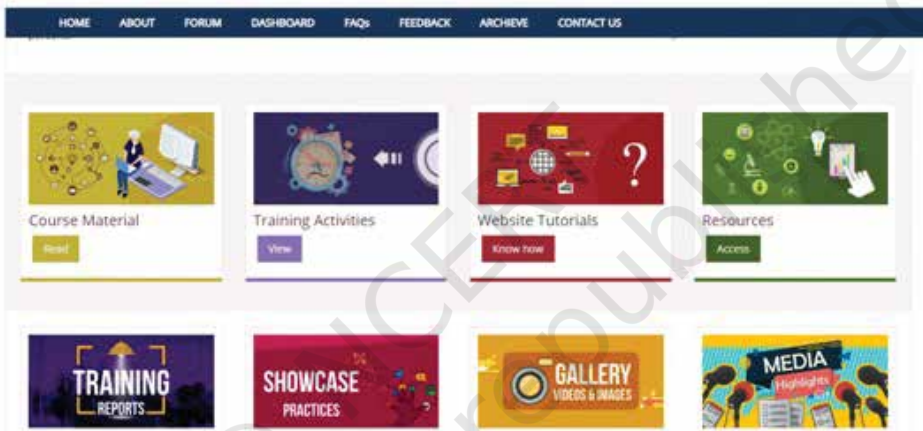


Fig. 4: Main highlights of NISHTHA Website

NISHTHA mobile app is designed and developed to share the educational

resources including course modules, and supplementary resources offline.



Fig. 5: NISHTHA mobile app

DIKSHA

MHRD has launched DIKSHA portal for providing digital platform to teachers giving them an opportunity to learn and train themselves and connect with teacher community. The portal envisages helping teachers boost their teaching skills and create their own separate profile with their skills and knowledge, and help in improving quality of education with use of latest technologies in education sector. DIKSHA as National Digital Infrastructure for Teachers will enable, accelerate and amplify solutions in realm of teacher education. All teachers across nation will be equipped with advanced digital

technology. It is helping teachers to create training content, profile, in-class resources, assessment aids, news and announcement and connect with teacher community. The DIKSHA platform and mobile app offers teachers, students and parents engaging learning material relevant to the prescribed school curriculum. Teachers have access to aids like lesson plans, worksheets and activities, to create enjoyable classroom experiences. Students understand concepts, revise lessons and do practice exercises. One of the verticals of DIKSHA, Teacher professional development provides contextualised digital courses that support teachers in their professional development.



Fig. 6: NISHTHA mobile app

Mobile Apps for Teacher Training

There are several mobile applications that are designed and developed by various agencies to provide training to teachers. All the major initiatives for teacher professional development discussed in this article like SWAYAM, DIKSHA, NISHTHA are also

available in mobile applications. But there are some mobile applications that are designed specifically for teacher training. ChalkLit is one of such mobile applications for teacher education and training. ChalkLit provides tools, resources, and trainings to teachers to help them teach better in their classrooms. It also offers a personalised peer to peer social

micro learning network where teachers can learn from the best practices and experience of other teachers.

Conclusion

In this paper, we have discussed various opportunities that are provided by ICTs for teachers for their professional development. We have explored several online learning platforms for providing teachers' professional development. There are several MOOC platforms, such as, edX from Harvard and MIT and even private portals that offers various courses. The potential benefit for using MOOCs for professional teacher development is that

they offer increased exposure for teachers to OER resources, which make blended learning and flipped classroom type efforts more accessible. Also, online learning through MOOCs advances the teachers' academic understanding and that they can then bring into the classroom. Further, MOOC providers should sustain the quality of learning and at the same time, teachers should value and accept these courses as opportunity for their professional development. The combination of MOOCs and professional teacher development warrants more empirical and analytical research in the future in order to better study the potential successes and hazards.

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