Nepal Team

Case study in progress from the KIX-EAP learning cycle "Teacher Professional Development at Scale (TPD@Scale)" held in collaboration with the TPD@Scale Coalition for the Global South, through the Foundation for Information Technology Education and Development, Inc. (FIT-ED)

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About case studies in progress

This case study in progress was drafted by a national team that participated in the KIX EAP Learning Cycle on Teacher Professional Development at Scale (TPD@Scale). Case studies in progress are ongoing and incomplete studies. As such, the KIX EAP Hub/ NORRAG does not guarantee the quality of the work nor the accuracy of the data.

The KIX EAP Learning Cycles are supported by the Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX), a joint endeavour with the International Development Research (IDRC), Canada. The findings, interpretations, and conclusions expressed in the Learning Cycle outputs do not necessarily reflect the views of the KIX EAP Hub, NORRAG, GPE, IDRC, its Board of Governors, or the governments they represent.

About the KIX-EAP Hub

The Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX) is a joint endeavour with the International Development Research Centre (IDRC) to connect expertise, innovation, and knowledge to help GPE partner countries build stronger education systems and accelerate progress toward SDG 4. There are globally four KIX hubs or Regional Learning Partners, overseen by IDRC. The hub functions as a regional forum within KIX. NORRAG (Network for International Policies and Cooperation in Education and Training) is the Regional Learning Partner for the KIX Europe Asia Pacific (EAP) hub.

The KIX EAP hub facilitates cross-country knowledge and innovation exchange and mobilisation, learning, synthesis, and collaboration among national education stakeholders in 21 GPE partner countries in the EAP region. The hub also offers opportunities for peer learning and exchange by means of professional development and inter-country visits.

About the learning cycle on Teacher Professional Development at Scale (TPD@Scale)

This case study is a result of the KIX EAP Learning Cycle 'Teacher Professional Development at Scale (TPD@Scale)'. Organised by NORRAG in collaboration with the TPD@Scale Coalition for the Global South, through the Foundation for Information Technology Education and Development, Inc. (FIT-ED), this professional development course ran from 23 September to 5 December 2022. Across 10 weeks, this Learning Cycle enabled national experts to examine how ICT-mediated TPD programmes can be scaled through adaptation/localisation to improve students' learning outcomes. Thirteen national teams of educational sector experts from Bangladesh, Bhutan, Georgia, Kyrgyz Republic, Maldives, Moldova, Mongolia, Nepal, Sudan, Tajikistan, Uzbekistan, Vietnam, and Yemen took part in this Learning Cycle.

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Part 1. Policy Brief: A modified Teacher Professional Development for Nepal

Introduction

Nepal is a landlocked country between China and India, with Himalayas on the northern top, hills in the middle and the plain of Terai in the southern part. The constitution of Nepal 2015 envisions a scientific, technologically sound and skill-based education system that can generate skilled human resources who can bring prosperity to the nation.

Education is an essential tool for the development of such human resources and teachers are at the heart of delivering quality education (Pant et al., 2020; Dhungana et al., 2021). Teachers need to understand the curriculum and pedagogy to deliver the curriculum. A continuous teacher professional development is required to ensure teachers have necessary skills, pedagogical and content knowledge to develop an effective environment for students to fulfil the national goals.

Teachers' Professional Development (TPD) is a powerful approach to implementing child friendly pedagogical and assessment approaches for 21st century education that focuses on students' holistic development. Trained teacher enriches the students' learning experience with skill and knowledge in a joyful environment. There is a need for a skill-based training strategy in the teacher's professional development program. More than the skills and content knowledge, teachers need a reflective practice to develop them professionally (Pokhrel et al., 2016).

The development of quality teachers and plans to train them continuously are therefore essential initiatives to secure the future of education at all levels of education. A teacher's quality is shaped primarily by effective TPD planning and its implementation. However, it is difficult to obtain specific guidelines on designing policies, plans and implementation strategies for TPD in Nepal.

Status of teacher professional development in Nepal

The provision for teacher professional development was included in the school sector development plan 2009 – 2015. Following provision was made accordingly.
- A teacher will have the opportunity to participate in 30 days training divided into three modules of 10 days each.
- Each 10-day module is broken down into 5 days of direct face to face training, 3 days of in school teaching practice or project work and 2 days of observation and support by a resource person.
- All three modules will be demand based.

These provisions were decentralized and the accountability of assessing demand, designing, and executing teacher professional development programs was assigned to local training centers. In their reflection this provision was not effective due to limitation of expertise and resources needed at the local level compared to the huge number of teachers who needed professional development.

Revised TPD framework 2015

The revised TPD framework 2015 was designed keeping in mind the learning from the past. This framework puts teachers at the heart of quality education with following aims:

- Motivating and skilling teachers for their professional growth based on their demand and result they produce in school.
- Build intrinsic motivation in teachers that is observable in their behavior.
- Support teachers in improving their teaching methods such that it brings transformative change in students' achievement.

The revised framework has mentioned following methods for professional development of teachers:
- Use of intrinsic motivation, practice teaching, observation, teacher professional network, experience sharing etc for TPD at training center and at school.
- Standardize training based on the curriculum as well as need based local training program design and implementation.
- Practice teaching as an integral part of TPD
- Training trainers' preparation courses
- Recognizing and rewarding teachers for their effort
- Use of ICT for TPD

The revised TPD framework 2015 mentions three types of Teacher professional development program:

1. Teacher Training
   a. The teacher training is further divided into three categories
      i. Teacher certification training
      ii. Refresher training
      iii. Local need-based training modules

Local teacher training centers run standardized courses for teacher certification. Teachers can demand subject specific training as well as based on the local need. The teacher certification training is designed in two phases of 15 days each. The 15 days are divided into two parts, 10 days of face-to-face training and 5 days of in school practice teaching. The teacher will have to submit a report in a standard format to complete the module. Each module is given 50 marks and the teacher is evaluated out of 100 marks for certification. One has to score at least 50% in each module to be certified as a trained teacher. Certified teachers are eligible for refresher courses based on their demand.

2. Self-initiated learning
The revised TPD framework 2015 encourages self-initiated learning. Learning by doing will be included as part of the teacher evaluation process. For motivated teachers ICT will be used for online courses and the participating teachers will be certified.

3. Experience sharing program
The revised TPD framework 2015 has provision of experience sharing sessions at school level, resource center level and district level.

Besides the framework emphasis on use of ICT for TPD, motivating and recognizing innovative teaching practices, monitoring and evaluating through sampling in school, training center and district level, updating the teacher development course based on the feedback and observation.

National Teacher Competency Framework 2015

Center of Education and Human Resource Development (CEHRD) has developed a national teacher competency framework 2015 which enlists eight competencies:

1. Content knowledge: In depth understanding of the subject matter to be taught.
2. Pedagogical knowledge: Understanding of various pedagogical approaches and ability to practice them
3. Knowledge about children / learners: Ability to understand the different learning needs and differentiate learning for students.
4. Learning environment and Classroom Management: Ability to create and manage child friendly learning environment
5. Communication and collaboration: Ability to effectively communicate with students, parents, administration, and other teachers.
6. Continuous learning and professional development: Ability to self-evaluate the knowledge, skills, and experience for continuous professional development.
7. Legal bases and professional conduct: Understanding of policy and law as well as social norms and customs.
8. Information and Communication Technology: Ability to use ICT for effective learning and teaching.

Current practice of TPD in Nepal

In practice there are some good aspects as well a lot of gaps between the teacher professional development framework 2015 and teacher professional development practices.

Some of the good aspect of current TPD practices are:
1. The training is effective in terms of enhancing the content knowledge in the subject specific training
2. Teachers are getting ideas to solve technical and subject wise challenges
3. Promotes experience sharing among teachers
4. Teachers are motivated to practice new idea in classroom.
5. Provides completion certificate for teachers to get promoted

Some issues with the current TPD practices are:
1. The learning from the training is not reflected in classroom practices. Most of the teachers sign up for the TPD session with the motivation for getting the completion certificate which is mandatory for their promotion.
2. The training is focused on the content and conceptual understanding rather than the practical aspects of it. These training needs to consider the classroom scenario and include mock or practice teaching.
3. The training is conducted by the same trainer on similar topics which makes it less interesting and engaging for the participants.
4. The training is organized based on the fixed calendar and budget rather than addressing the needs of the teachers. The need-based training is non-existent even though the policy focuses on need-based training.
5. Monitoring and evaluation are not effective. It seems in most cases it is done just for the sake of doing and is staged.
6. Teachers don't have ownership of the training programs and they are not able to transfer their learning into their classroom.
7. Many teachers are deprived of training opportunities due to geographical differences and technological differences.

Proposed TPD framework

The proposed TPD framework puts teacher's needs at its center. At first the need of the teacher is evaluated through class observation and focused group discussion in which teachers will be provided with the opportunities to critically reflect upon their assumptions and practices. For the need analysis and identification

of the problems, it is necessary to assess teacher's practices and it can be done through observation and reflection activity. Based on the needs, the action plan will be developed, put into practice through master training program and scaling the program to teachers. After this, teachers implement in the classroom settings. The observation and reflection will be done by teachers and again they come to another issue. So, we are focusing on the action research model of teachers' professional development (Reflection-plan-action-observation-reflection). The TPD program is designed to meet the needs of the teacher and the usefulness of TPD is evaluated in a continuous process. A community of practice is formed among the participating teachers such that sharing of experiences promotes peer learning.

Figure 1. Proposed TPD Framework
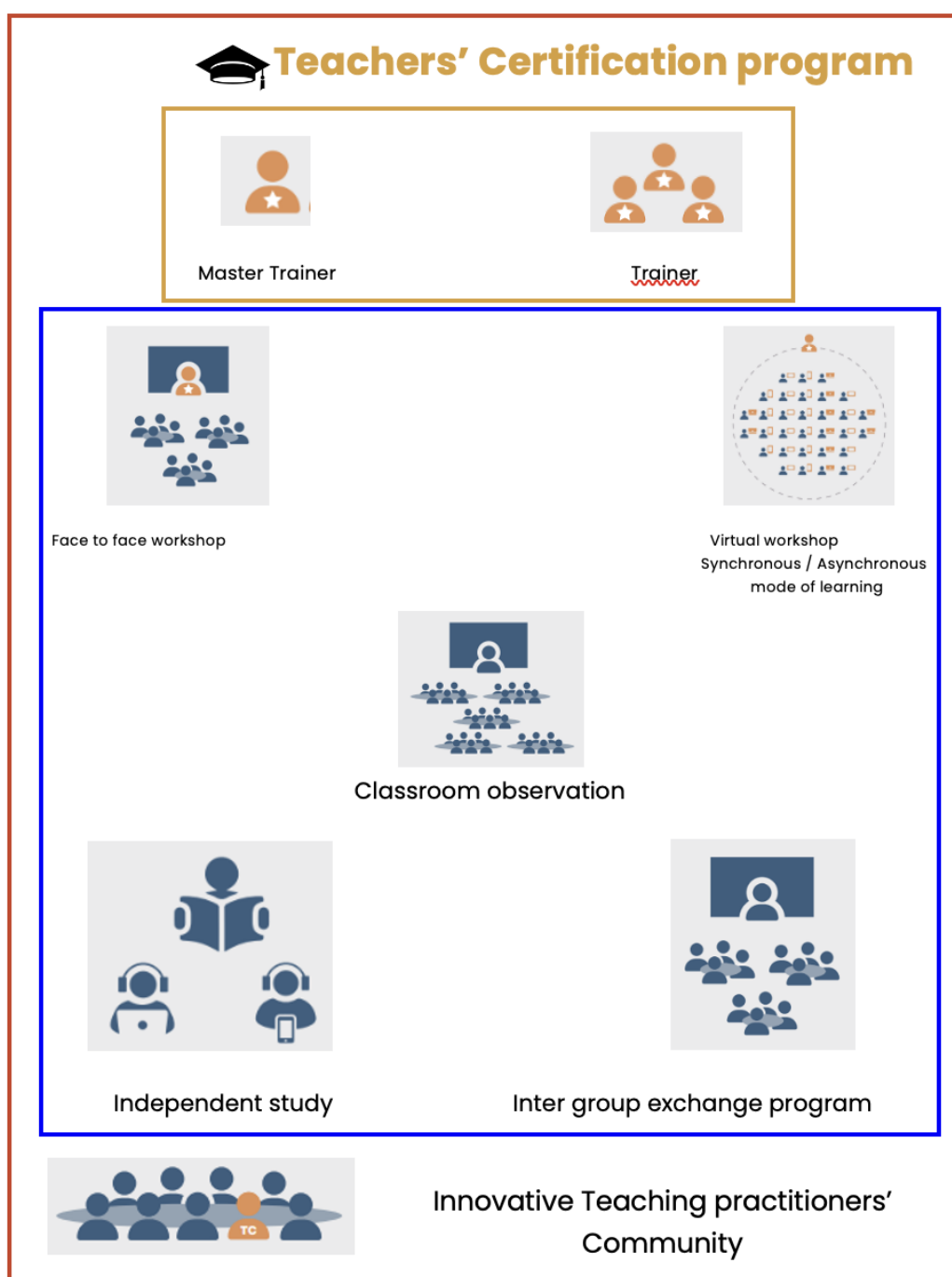
Conclusion

Teacher professional development practices are very crucial in achieving the aims and objectives of revised teacher professional development framework 2015. Developing the skills mentioned in national teacher competency framework 2015, requires a continuous teacher development program that address teacher's need such that the learning is transferred in their classroom.

The effectiveness of current TPD practices in Nepal can be enhanced through teacher centred approach with a continuous feedback loop. Teacher's need should be first identified through observation and focus group discussions so that the workshops can be designed to address those needs. The proposed TPD model aims to bring change in the mindset of teacher such that the learning from the workshops and training translates into their behavior.

Part 2. Project Proposal: TPD for Integrating skill-based science education

Project Overview

Project particulars

Integrating skill-based science education teacher professional development program aims to prepare science teachers to reduce the gap between the intended and implemented curriculum 2077. The current situation of science teaching and learning is limited to rote learning that focuses on memorizing scientific concepts using textbooks and a few demonstrations. Through this TPD program teachers will develop activity-based teaching and learning skills to contextualize the science lesson with the real world and then deliver similar lessons for meaningful learning. This training will help teachers to encompass the 21st century skills in their teaching learning activities and transform them from traditional approach to transformative approach.

This program will be piloted with about hundred schools in Bagmati Province (Province #3), reaching all thirteen districts. The program will cater to science teachers teaching in grade six, grade seven and grade eight only.

The duration of the project will be three years and forms an Innovative teaching practitioners' community that shares the learning from the project even after the project ends.

Schools will be asked for the membership of their science teacher in the Innovative teaching practitioners' community for sustainability.

The cost of the project for three years is estimated to be 360,000/ $.

Project Group Members and Partners

This project will have a core team and an executive committee. The core team will have the following representation:

- A member from Center for Education and Human Resource Development (CEHRD)
- A member from Curriculum development center (CDC) or education review office (ERO)
- A member from ministry of Education, science and technology
- A member representing the University
- A member from Karkhana representing the consortium of private education service provider
- A Member representing INGO working in education
- A member representing community school

The executive committee will have the following representation:

- Director for the project
- Master trainers
- Teacher coordinators
- Local trainers

Following are the potential partners:

- Science Teacher Association of Nepal (STAN)
- Nepal academy of science and technology (NAST)
- Kathmandu University School of Education

- King's college
- Aaryashree International
- Living school academic forum
- Consortium of private education service provider
- Private & Boarding School Organization Nepal - PABSON
- The National Private and Boarding Schools' Association Nepal - BPASON
- Nepal Astronomical society - NASO
- Simulation science center
- National Innovation center

Project Summary

TPD for integrating skill-based science education projects start with the reflection with the stakeholders of the TPD program. The reflection will be done with the science teachers, school leaders, parents and students. Based on the reflection a TPD program is designed, implemented, observed and evaluated.

Action research methodology will be applied continuously for the entire three years to ensure the TPD meets the demand of the curriculum, time and stakeholders.

Modular courses will be designed based on the need assessment which are made accessible through face-to-face physical session, face to face virtual session and asynchronous self-learning platform. The modular courses will be designed in such a way that it can be converted into university credit hours working with one of the reputed universities in Nepal.

Teacher motivation to join the TPD program:

- Teachers need to understand the updated science curriculum and how to implement it effectively
- Teachers get access to a lot of teaching resources which otherwise needs to be designed by them
- Certification of training
- Sharing of experiences and learning from best practices of others
- Improvement in their science teaching and learning and support in contextualizing teaching skills through observation and feedback
- Sharing ideas to design different activities, projects, model to improve their teaching skills
- Award for best performance during training and in classroom and continuous feedback for further improvement

Features of TPD for skill-based science teaching:

- The current TPD model is of 30 days, divided into two phases. The first phase of 15 days is divided into two parts, 10 days of face-to-face training and 5 days of in school practice teaching. The teacher will have to submit a report in a standard format to complete the module.
- This proposed TPD will be more flexible toward the needs of the teacher and ways in which a teacher can attend the TPD workshops. A teacher will get three days of face-to-face training once every six months for three years.
- Teachers will have flexibility to attend virtual sessions as well as asynchronous learning materials.
- Teacher's portfolio will be maintained to document their progress for three years.
- An innovative teaching practitioners' community of practice will be formed.
- Teacher growth will be evaluated through frequent assessment both virtually as well as through focus group discussion.
- The TPD session will be designed based on the need assessment and will be demand driven.
- Master trainer will go through a one-day face to face workshop along with virtual synchronous and asynchronous sessions.

- Master trainers will observe the class of science teachers and work closely to ensure their growth.

Project Description

The main aim of this project is to reduce the gap between the policy and practice of teacher professional development for science education by making the TPD program demand based with constant monitoring and support.

The objective of this project is to work with science teachers from grade six, grade seven and grade eight to effectively implement the updated national science curriculum 2077.

Following are the key deliverables of the project in three years:

- Improve understanding of the updated national science curriculum in teachers
- Improve understanding of the scientific skills in students and teachers
- Integration of skills-based science teaching in the classroom
- Create and curate innovative teaching practitioners' community
- Create open educational resources for effective science teaching
- Create modular courses based on need of teacher that are both physical and virtual

Evaluation plan

Mixed method of both quantitative and qualitative research will be done. Pre and post intervention assessment of teachers and students will be done via survey, focus group discussion and interviews. Evaluation will be done with the stakeholders about the effectiveness of the TPD program.

Timeline

Year 1:

- First three months dedicated to reflection and need assessment with stakeholders
- Prepare a brief report of need assessment
- Observation of science teaching in the classroom
- Next three months design the TPD session to meet the need of teachers and demand of the curriculum.
- After first six months start working with science teachers
- Pre intervention survey will be done
- One day intensive master trainer workshop is conducted
- Three days of intensive teacher workshop is conducted
- Once a month virtual session is conducted
- Local trainer observes the class delivery
- Teacher's portfolio is created

Year 2:

- Planning for year 2 is done with reflection with stakeholders
- One day intensive master trainer workshop is conducted every six months
- Three days of intensive teacher workshop is conducted every six months
- Once a month virtual session is conducted
- Asynchronous open learning resources are created
- Local trainer observes the class delivery

- Teacher's portfolio is maintained
- Innovative teaching practitioners' community is curated

Year 3:

- Planning for year 3 is done with reflection with stakeholders
- One day intensive master trainer workshop is conducted every six months
- Three days of intensive teacher workshop is conducted every six months
- Once a month virtual session is conducted
- Asynchronous open learning resources are made accessible through a LMS
- Local trainer observes the class delivery
- Teacher's portfolio is maintained
- Innovative teaching practitioners' community is active and self-sustaining
- Teacher certification is done

Budget

The budget for three years is estimated to be around three hundred and sixty thousand USD (360,000 $) in total.

Table 1. Project Budget

Budget heading	Amount in $
Human Resource	99015
Office rent and setup	13385
Travel and accommodation	47308
Printing	37846
Online platform	9231
Designer	7385
Events	53523
Learning materials	92308
Total budget	**360000**

References

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