

SECTION 9

IMPLEMENTING ICT-SUPPORTED TEACHER PROFESSIONAL DEVELOPMENT

GUIDING QUESTIONS

- What supports are in place to help teachers successfully implement what they are learning in TPD? Which of the critical supports identified in this section could be addressed to improve project implementation?
- Which organizations within the education system, such as district offices, teacher training colleges, or universities, can provide follow-up support for TPD in schools?
- In what ways can existing ICT infrastructure, including mobile phones and radio, support follow-up for current or planned TPD?
- Is the technical-support capacity for ICT-enabled TPD located primarily in the private sector, in government, or in schools? How can that capacity be augmented?

IN THIS SECTION

- Teacher Incentives
- Supporting TPD in Schools
- Follow-up Support
- Follow-up and Communications
- Mobile Phones as Support Tools
- Support from School Leadership
- Support from the Community
- Community Support for IRI
- Technical Support
- Collaborative Support
- Infrastructural Support for TPD
- Web Resources

SUMMARY

Learning does not end at the conclusion of a workshop. Teachers need continuous support, including both assistance and pressure, to implement the skills and concepts learned in professional development. Such support should include incentives to participate in TPD and to institute new techniques as they are learned and must include human, technical, administrative and infrastructural resources.

However, schools cannot hope to provide such support on their own. They need adequate resources, and school leaders who understand the goals and challenges involved in change. When any of these supports is lacking and when support efforts are not coordinated, the entire investment in TPD is at risk.

The need for on-site support is especially critical in resource-poor environments. TPD programs for poor schools must be adapted to meet the conditions in schools, focusing *only* on the types of activities teachers are able to successfully carry out. But these schools, because their need is so great, must be provided with as many resources as feasible to succeed. Available infrastructure does not need to be “state of the art,” but it must enable teachers to use prescribed TPD tools and resources effectively. And it is important to remember that any meaningful project in TPD will confront significant challenges. Incorporating ICT will address many of those challenges but will give rise to new ones.

This section outlines the most critical supports needed to implement and sustain ICT-enabled TPD goals at the school and classroom level. Additional information about understanding the change process and specific instructional methodologies that complement ICT use, and the types of computer hardware configurations that can best help teachers successfully integrate ICT into instruction, are detailed in the *Implementation Briefs that accompany this handbook*.

TEACHER INCENTIVES

To change their practices, teachers need support, pressure, and incentives. Both *intrinsic* and *extrinsic* incentives should be considered in the design of any TPD initiative.

Improved performance is an effective *intrinsic* incentive. Teachers will adopt an innovation when they see that it *adds value*, is *easy* to use, and when they are provided the *time and support* they need for *learning and practice*.

But self-motivation, without rewards for experimentation and innovation, is hard to sustain. Teachers, like students, need *extrinsic* incentives and motivation to persevere in the effort to improve their teaching.

Extrinsic motivators can include:

- Stipends for TPD
- Promotion or job retention linked to TPD attendance, ICT use or innovative practices
- Accreditation or certification
- Access to new or additional educational resources
- Advancement through stages of additional TPD
- Micro-credit support for purchases of computers
- Merit-based pay instead of seniority-based pay (Malawi has made this change)
- Rewards and recognition by school leadership, parents' groups, and community leaders
- Compulsory participation in TPD

Every TPD project plan should address incentives and teacher motivation. A combination of intrinsic and extrinsic incentives helps teachers find satisfaction in learning while reaping tangible rewards for a job well done.

SUPPORTING TPD IN SCHOOLS

To ensure that teachers implement the innovations learned through TPD—whether active learning or using spreadsheets to record grades—teachers must have support at the school and classroom level.

These include:

- Follow-up support
- Administrative support
- Technical support
- Collaborative support

When any aspect of this support is lacking, the entire investment in TPD is at risk.

Follow-Up Support

Human support for TPD is critical. Teachers need ongoing access to a follow-up person, coach or mentor. That person should be enthusiastic about improving education, invested in the success of individual teachers

CONFRONTING TEACHERS' PRECONCEPTIONS

The process of educating teachers must take into account (teachers') prior beliefs (and) experiences...Most teachers bring to the classroom an ingrained, long standing notion of the roles of teacher and student, authority, and how learning occurs. This is in constant conflict with professional development... Teachers experience intense conflict as they explore alternative approaches which sharply contrast with embedded beliefs and values about management, curriculum, instruction (and their own authority roles and the role of the student).

L.R. Knapp & A.D. Glenn
Restructuring Schools with Technology, p. 18

and the TPD program, extremely familiar with instruction, curriculum, assessment and classroom management, and have an implicit understanding of the challenges associated with change.

When education systems lack capable mentors or coaches, long-term planning should identify potential sources of such personnel—including teacher training colleges, district offices, and universities—and cultivate their capacity to support TPD.

The “reach” of support personnel can be extended by the use of communications tools such as mobile phones, voice messaging, text messaging, Instant Messaging (IM), two-way radio, and email. In Tajikistan, IM has been used to link teachers in isolated, mountainous schools with Relief International/Schools Online project staff in Dushanbe.

Support from School Leadership

Access to an external follow-up person is critical. But *internal* support—particularly the support of school leadership—is just as important. School leaders can provide critical internal support by:

- Setting *expectations* for teachers
- Establishing a *culture and climate* that encourages and rewards change and experimentation
- Providing the *time and resources* for teachers to practice what has been learned in TPD
- Demonstrating *effective leadership*, so that everyone in the schools is working to support change

Studies of effective TPD programs, such as Chile’s *Enlaces* program, identify committed and capable school leadership as the “key element” for change and as a “considerable element” in student achievement. ICT-enabled TPD projects, such as *LearnLink*, included school and ministry leaders in professional development to help leaders become “champions” in the area of ICT and instruction.

TPD project planning should address ways to “enlist” school leaders in supporting educational reform.

Support from the Community

School leaders can also enlist *family and community support* for ICT in schools. Strong school-community relationships contribute to project success by increasing their accountability. And teachers feel better about themselves and their work and treat students better when they feel valued by the community.

MOBILE PHONES AS SUPPORT TOOLS

As telephone network infrastructure advances, data communications for TPD using mobile phones becomes increasingly feasible.

How can mobile phones be used for follow-up?

- Teachers can use mobile phones for ongoing communication, including voice or text messaging, with a support person and with colleagues
- A support person can use SMS (text messaging) or email-to-SMS to send regular encouragement to teachers
- Teachers can phone in to voice-to-text Help Desk services, ask questions that are converted to text and distributed to Help Desk experts, and receive voice or SMS responses
- Audio job aids (including lesson-plan supports such as stories, pronunciation guides, and inquiry strategies) can be downloaded to mobile phones as MP3 files for use in preparation or during classes
- Short audio or video clips of class activities can be recorded on phones, then shared among groups of teachers and their mentors for analysis and feedback

Education Development Center is presently developing a program in Zambia in which teachers use mobile phones to make weekly progress reports to mentors on their use of new science kits. Questions and comments sent by the teachers will be recorded for broadcast in a 15-minute segment for a weekly teacher radio program.

SCHOOL LEADERSHIP AND TPD

Leadership (must be) supportive of teachers, in meaningful ways that give teachers decision-making authority and the time to meet together to discuss and reflect on the goals and ways to achieve those goals.

Teachers need coaching, for teachers like all learners (young and old) do not get it perfectly the first time.

Dr. Shirley Hord
Scholar Emerita, University of Texas,
Southwest Educational Development Laboratory

Austin, TX (USA)

School leaders should be encouraged to enlist family and community support by:

- Initiating outreach activities, such as visits to the computer lab or to an IRI class
- Establishing computer-lab steering committees that include community members, parents, teachers, and students
- Offering computer training or Internet use to community members
- Presenting TPD and ICT project information to parents' groups
- Helping to establish alumni organizations that support educational programs, TPD, and ICT

When schools primarily serve boarding students—often the case in rural secondary schools—school leadership should be made especially aware of the need to build bridges to *both* the surrounding community and to students' families.

Technical Support

Computers break down. If no one in the school can fix them, and the closest technical support is hours or days away, the computers are abandoned. Investment in ICT and TPD is wasted. This is the most common ICT tale in schools around the world.

Funding for technical support—including travel costs if necessary—should be part of any TPD program.

Many programs enlist upper-primary and secondary students as technical-support personnel. In its *Kids on the Block* program, SchoolNet Namibia has trained hundreds of unemployed youth in Windhoek as technical-support staff. These youth provide support for the refurbished computers that SchoolNet provides to Namibian schools. For SchoolNet schools outside of Windhoek, however, technical support remains a challenge, as there is no funding for travel for *Kids on the Block* teams.

Project planning and budgeting can improve technical support by:

- Providing schools or local technical-support providers with critical spare parts (power supplies, mother boards, hard drives, etc.)
- Extending seed funding or micro-credit to start-up computer-repair businesses
- Contracting existing private-sector technical-support providers
- Enlisting the aid of staff at Internet cafes or telecenters
- Identifying ICT projects or NGOs in other sectors—such as health or agriculture—that can assist with technical support

Approaches should be developed based on local capacity and density of ICTs. In Guinea, where radio is everywhere, there are plenty of radio repair shops. As computers become more common, options for technical support will increase.

Collaborative Support

Teachers encounter barriers when they attempt innovation in their schools. To help them overcome such barriers, and to help build *internal* expertise and capacity in schools, programs should include structures that support collaboration among teachers.

COMMUNITY SUPPORT FOR IRI

L'Ecole Toquiron is a poor rural school near Coyah, Guinea. When the school's only windup radio broke, students were unable to listen to the popular IRI program *Sous le Fromager*. Village families collected money to replace the windup radio with a better-quality battery-run radio-and-cassette player so the school could audiotape the program for playback. The village also paid for the blank cassette tapes and batteries. In other schools, students have brought radios from home for use in class, and parents have provided cassette tapes for a library of *Sous le Fromager* programs.

Sous le Fromager is a popular learning tool but funding no longer covers recurrent costs. Community support enables students to continue to benefit from *Sous le Fromager*.

When teachers consistently share challenges and issues, they create school-based communities of practice. These collaborative communities promote and sustain school change by helping teachers to:

- Improve their own performance, as well as that of their colleagues
- Develop confidence
- Become more self-motivated
- Rely more on one another and less on external facilitators

When they work together in Communities of Practice, teachers experience collaboration, inquiry, and independent learning. Their experiences help them understand and support the same activities among students in their classrooms.

Collaboration not only improves teacher performance, it improves teacher retention: New teachers supported by a network of colleagues or by mentors are *less likely to leave teaching* and more likely to improve practice than those without such access.

INFRASTRUCTURAL SUPPORT FOR TPD

Infrastructural support for TPD extends includes items such as classroom space and electrical power, as well as the “educational infrastructure” of knowledge resources, curricula, and assessment.

Critical infrastructural supports include:

- **Physical infrastructure**
Tables, desks, writing materials, and classroom space; computer facilities with electrical outlets and burglar bars
- **Technical infrastructure**
Electrical power, Internet connectivity, radios, batteries, computer hardware and software as appropriate
- **Manuals, guides and teaching aids**
Print-based guides to hardware and software, instructional materials, etc.
- **Educational infrastructure**
Modifications to curricula, educational standards, teachers guides, and student assessments needed to support TPD

In many instances, revision of student assessment (including tests, national exams, portfolios, teacher reports, and requirements for advancement) may be the single most challenging *and* the most important step toward educational reform—and toward supporting TPD. But the most successful TPD programs are those that are integrated into comprehensive approaches to educational improvement.

See the Implementation Briefs for a more complete discussion on the technical and instructional supports needed by teachers so they can successfully implement what has been learned in ICT for TPD projects.

WEB RESOURCES

- *BECTA ICT Advice*
The British Educational Communications and Technology Agency (BECTA) provides practical policy, planning and organizational assistance for using ICT in schools.
<http://www.ictadvice.org.uk>
- *BECTA Schools Sector Toolkit*
This online toolkit helps to support the recruitment, training and retention of ICT technicians for schools. Among the toolkit’s features are: ICT skills for teachers; “ask an expert” features on integrating ICTs into the classroom; and a series of self-evaluation and planning tools for ICT. Though the site is directed at UK schools, most of the content is valuable from an informational perspective and much of it

can be adapted to non-UK settings.

<http://www.becta.org.uk/schools>

■ *Namibian Education Development and Support Network (EdsNet)*

EdsNet offers a comprehensive collection of digitized content to support teachers in the use of ICTs in schools and classrooms. The site contains local-language content, information on learning theories and instructional approaches, a list server so teachers can communicate with one another and access to lesson plans and curriculum.

<http://www.edsnet.na>