

SECTION 8

ONLINE DISTANCE LEARNING FOR TEACHER PROFESSIONAL DEVELOPMENT

GUIDING QUESTIONS

- How can the country’s educational system best take advantage of the many international resources in online TPD?
- Are there educators in the country who are using computers and have the skills to benefit from online TPD courses?
- Which model—self-directed, online TPD courses, or online TPD communities—is most appropriate for the local situation?

SUMMARY

Online distance learning for TPD can be described by three models: self-directed online TPD, online courses for TPD, and online communities for TPD. Many web sites combine resources for self-directed learning with courses, and with discussions or other community functions.

All forms of online TPD require access to computers and an Internet connection, as well as the skills to use these. In addition, online TPD requires strong literacy and language skills. In general, online TPD may be most appropriate for *advanced* teachers or as a means of providing crucial follow-up support for face-to-face TPD.

MODES OF ONLINE TPD

The potential of online TPD lies in part with its ability to make multi-channel instruction—based on content and on interaction with peers and mentors—available to large numbers of students while enabling participants to remain employed. In addition, online TPD provides teachers, school leaders, and educational specialists access to TPD resources from top-tier institutions such as Harvard University.

Online-learning approaches to TPD using these tools can be grouped into three modes:

- Self-directed
- Online courses
- Online communities

These three categories are parallel to the three TPD models addressed in *Section 3: Models and Best Practices in Teacher Professional Development*.

IN THIS SECTION

- Modes of Online TPD
- Open and Distance Learning
- Face-to-face vs. Online TPD
- Self-directed Online TPD
- Overcoming Challenges in Self-directed Learning: Turhan Alnitemiz
- Commonwealth Electronic Network for Schools and Education
- Online TPD Courses
- ConnectED Uganda
- WIDE World
- Online TPD Communities
- iEARN
- Development vs Recurrent Costs for Online TPD
- Web Resources

However, boundaries between categories of online TPD are more fluid: A teacher may discover a course while at a teacher resource center (self-directed TPD), complete the online TPD course in six sessions, and after that sign up for the course's list-server discussion of classroom-management techniques.

Face-to-face vs. Online TPD

Face-to-face TPD—as discussed in *Section 3: Models and Best Practices in Teacher Professional Development*—enables teachers to work directly with expert guides, without barriers in relation to technology, writing skills, or cultural values. Face-to-face TPD is a very effective means of enabling teachers to model instructional techniques.

However, it may be limited by the scarcity of expert facilitators and expensive to implement in large-scale projects.

Online TPD relies on computers and the Internet to give teachers access to experts, mentors, and peers via email, chat, and the Web. Online TPD also makes TPD-related content, including certificate-based online TPD courses, available to teachers around the world.

Much current research suggests that face-to-face TPD is more effective than online TPD. However, as online TPD becomes more widely utilized, and as new modes and resources are developed, these results may change.

SELF-DIRECTED ONLINE TPD

Self-directed online TPD ranges from preparing for a social studies class by reading newspapers on the Internet, to surfing the Web for lesson plans on plant biology, to upgrading skills in a self-paced basic-algebra tutorial.

Teachers with *advanced* skills will tend to be most successful in self-directed online TPD. Requirements include:

- Access to a computer connected to the Internet
- Beginning computer skills, especially search skills
- Advanced literacy skills
- Advanced skills in a language common on the Web
- Intermediate to advanced subject knowledge
- Advanced teaching skills

Although computer skills and access are necessary, the primary challenge for teachers is to make use of the resources that they encounter online. If a lesson plan on plant biology uses examples of trees in Canada, a teacher in Zimbabwe may be able to substitute local trees in ways that support the lesson. If a project involves “cooperative learning,” and bases assessment on small-group interactions, without advanced skills that teacher may still implement the project poorly.

Commonwealth Electronic Network for Schools and Education

Online education portals help focus teachers' explorations and reduce trial and error. The Commonwealth Electronic Network for Schools and Education (<http://www.col.org/cense> - CENSE) presents technical-

OPEN AND DISTANCE LEARNING

Distance learning, or distance education, frequently uses the postal service to distribute learning resources—including books, photocopies, tests, videos—and to receive materials sent by students, such as papers or completed tests. Computers and the Internet may be used as well.

“Open learning” provides students with choices about where the student is while taking the course, when the student studies, and how fast the course is completed. In many cases, open-learning institutions admit all students, rather than engaging in selective admissions processes.

The two terms are often combined as “open and distance learning,” or ODL. Among the first ODL institutions was the University of South Africa, which has been offering ODL courses since 1946 and is now one of the largest universities in the world, with over 100,000 students.

support information, hundreds of online lesson plans, and lists of online TPD courses and resources that can be accessed by the slow Internet connections available to most teachers in developing countries.

Questions for Further Discussion

CENSE and other “clearinghouses” support online self-directed TPD once teachers are connected.

Policymakers may be able to provide support that helps teachers access these resources

- Where do the teachers who already use the Internet go to connect (e.g., school labs, Internet cafes, etc.)?
- What will support teachers’ use of these facilities?
- How can support be provided to teachers who use the Internet for self-directed TPD?

ONLINE TPD COURSES

Online TPD courses enable teachers to benefit from many of the world’s great educational institutions and educators. However, to succeed a teacher must be prepared, have access to the Internet, time to devote to the course, and a reason to complete it.

Online courses, also known as “e-Learning” courses, are distinct from other Internet resources in that they typically involve:

- Enrolment in the course, and sometimes registration at the institution that offers the course
- Structured pathways through learning resources
- Periodic assessments
- Course completion requirements (e.g., exams, reports, lesson plans, etc.)

Such courses may also involve fees, especially if credit or certification is offered.

Online TPD Courses vary greatly in their structure and goals. Some online courses are “self-paced,” while others are “instructor-led” or facilitated. Online courses can address specific curricula and groups of teachers, as in the Connect-ED TPD courses in Uganda. They can help teachers build understanding of general pedagogical concepts and techniques, as in the courses offered by Harvard University’s WIDE World (<http://wideworld.pz.harvard.edu/>). Or they can help to build online professional development capacity, as with EdTech Leaders Online (<http://www.edtechleaders.org/>) which trains educators to facilitate online TPD and create their own online courses.

Connect-ED Uganda

The Connect-ED project in Uganda (<http://www.connected.ac.ug>) has developed six TPD courses for teachers enrolled in primary teacher training colleges. Each course is self-paced—meaning that students can progress at their own speed through the materials. Each course features 15 self-paced units of study,

OVERCOMING CHALLENGES IN SELF-DIRECTED LEARNING: TURHAN ALNITEMIZ

Turhan Alnitemiz has been teaching secondary math for over 30 years. Currently at the Isleri School in the town of Konu, Mr. Alnitemiz is an expert teacher, having written a widely used geometry textbook. In 1999, he decided to use the Internet to enhance his teaching. At the suggestion of a colleague in Istanbul, he visited the Educational Object Economy (EOE), an online repository of free interactive simulations for educators.¹²

Mr. Alnitemiz faced many barriers: a slow, dial-up Internet connection, incompatibility between his older Internet browser and the Java-based simulations on the EOE site, his limited English skills, and the EOE’s poor cataloguing scheme. After several months of trial-and-error, plus updates to his computer software, Mr. Alnitemiz located an advanced simulation tool, the Geometer’s Sketchpad, which could demonstrate the geometric properties of different shapes to students, and the Agentsheets application, a simple software-authoring tool that enabled him to develop his own simulations.

Teachers such as Mr. Alnitemiz, who overcome these and other barriers in online self-directed TPD, typically need high levels of motivation, advanced teaching skills, and adequate technical skills.

¹² The Educational Object Economy is no longer in operation. Many interactive simulations are available free of charge from the MERLOT project, a related repository (www.merlot.org). The Geometer’s Sketchpad is now called “The Java Sketchpad,” and is available online from Key Curriculum Press (www.keypress.com). The Agentsheets Java authoring tool is available at www.agentsheets.com.

downloadable reading materials, a glossary, and quizzes. Interactive materials in some units offer visual demonstrations of key concepts.

However, as discussed in *Section 4: Technologies for Teacher Professional Development—Computers and the Internet*, Connect-ED at present serves only a small fraction of Uganda's 39 teacher training colleges. The online courses are best viewed as supplements to face-to-face instruction: Although they have quizzes attached to the units, they do not feature enrolment functions, or assessments that determine course completion and content mastery.

WIDE World

WIDE World's interactive online courses (<http://wideworld.pz.harvard.edu>) cover math, reading and writing instruction, advanced instructional strategies, technology integration, and other topics. WIDE World courses are based on research by experts at the Harvard Graduate School of Education

Groups of ten teachers work together in teams to download course resources, participate in online discussions, post resources for others to use, and develop lesson plans. Each team is supported by an online coach.

Teachers from around the world have taken WIDE World courses. However, enrolment costs are relatively high, ranging from US\$99 for a two-session course to US\$399 for a six-session course.

Questions for Further Discussion

In many developing countries, conditions for primary and secondary teachers may not permit them to participate in online TPD courses. However, the pedagogical approaches such as those in WIDE World courses may be of value.

- What infrastructural and educational improvements are needed for teachers to participate in online TPD courses?
- Who in the school system currently has the capacity to benefit from online TPD courses?
- How can those participants capture and share their new knowledge in ways that contribute to education reform?

ONLINE TPD COMMUNITIES

As discussed in *Section 9: Implementing ICT-supported Teacher Professional Development*, teachers require interaction with colleagues and mentors if TPD is to be successful. Online communities of all types have emerged as effective and—when the technology has been in place—cost-effective solutions to teachers' needs for support.

Special-interest list servers, *ad hoc* Yahoo! groups, and Web-based chat, forums and discussions can enable teachers to:

- Develop lesson plans
- Plan online collaborative projects
- Discuss pedagogy, the school-as-workplace, and subjects such as science or literature
- Post experiences, lessons learned, or self-assessments
- Engage in peer mentoring

The benefits of these activities increase when teachers are also engaged in structured TPD programs.

iEARN

Established in 1988, iEARN (<http://www.iearn.org>) is a non-profit global network in which teachers and young people work together on projects that enhance learning and benefit society. iEARN has served as the starting point for integrating ICT into learning for thousands of teachers, most of whom have joined iEARN on their own initiative. iEARN offers resources in many languages, including Kiswahili and Arabic.

In addition to supporting collaborative projects, iEARN offers eight instructor-led TPD courses that help teachers enter into collaborative projects. Each nine-week course addresses a school subject, such as language arts, science, math, or the environment, or a topic such as helping students cope with traumatic events.

Each course brings together teachers from at least 10 countries, ensuring that teachers who complete the course have many opportunities to arrange international collaborative projects for their students. The TPD courses complement iEARN's function as an online "meeting place" for teachers interested in collaborative projects

Questions for Further Discussion

Teachers in many developing countries may lack sufficient computers and Internet access to participate in online TPD communities. They may also lack skills in computer use, communication, and teaching practice that are necessary for their success.

However, email lists, chat and other tools offer low-bandwidth support for smaller, locally focused online TPD communities.

- How many teachers currently have Internet access and computer skills?
- Are these teachers currently involved in TPD programs?
- How could those programs benefit from communication among participating teachers?
- What form (e-mail, SMS messaging) should community communication assume?

DEVELOPMENT VS. RECURRENT COSTS FOR ONLINE TPD

Connect-ED demonstrates the feasibility of developing interactive online-learning courseware in capacity-poor countries. Organizations in other countries have also developed effective online resources for TPD.

However, the costs of developing online TPD resources—whether a Web portal or a self-paced course—are typically much lower than recurrent costs. An email discussion list offers the perfect example: development costs are nearly zero; recurrent costs for a discussion moderator, discussion archiving, and outreach are higher. And as soon as recurrent costs aren't met, the discussion ends.

Online facilitation is both challenging and time consuming. Research shows that the time required to facilitate an online course is often greater than the time required to teach the same course face to face, because students communicate more frequently and in greater detail using email.

Consider Online TPD When...

Program objectives include:

- Enabling advanced teachers to improve their pedagogical knowledge and teaching practice
- Enabling large numbers of teachers to achieve certification via TPD courses
- Providing additional support to face-to-face TPD

Teachers' capacities include:

- Intermediate to advanced language, literacy, and communications skills
- Beginning to intermediate computer skills
- Intermediate to advanced pedagogical skills

Infrastructure includes:

- Computer access and Internet connectivity
- Stable electrical power

WEB RESOURCES

- *COL Learning Object Repository*

An online database of learning content, this repository provides software for developing online resources to Commonwealth countries free of charge. Institutions or governments can establish a shared repository by accessing free open source software from COL's LOR.

<http://www.col.org/lor>

- *COL Training Toolkits*

In co-operation with the Asian Development Bank and the International Extension College in the UK, COL has produced six comprehensive manuals for use in developing programs of open and distance learning.

<http://www.col.org/training/toolkits.htm>

- *Global Distance Education Net (GDENet)*

The Global Distance EducationNet (Global DistEdNet) is a knowledge guide to distance education designed to help clients of the World Bank and others interested in using distance education for human development. The network consists of a core site located at the World Bank and regional sites in all parts of the world, addressing four key areas: Teaching and Learning; Management; Technology; Policy and Programs

<http://www1.worldbank.org/disted>

ONLINE DISTANCE LEARNING IN TPD AT A GLANCE

Roles in TPD & education	Strengths	Limitations	Cost profile	Other considerations
<ul style="list-style-type: none"> Provides teachers access to learning resources for use with students Peer mentoring and teacher communities support TPD initiatives Accredited TPD courses help teachers upgrade qualifications 	<ul style="list-style-type: none"> Anytime, anyplace—in instances where connection is available Teachers can interact with expert teachers and others Written communication (email, discussion) can prompt more reflective and considered participation Supports a range of learning styles Potential to reach large populations of teachers 	<ul style="list-style-type: none"> Dependent on regular access to computers and the Internet Teachers must have computer, language and literacy, and teaching skills to participate effectively Many self-paced online courses lack high-quality or interactive content—online materials merely replace print materials Internet content may be overwhelming—too much and too many choices Online mentoring may be less effective than face-to-face Multimedia and interactive course materials require high bandwidth and powerful hardware 	<ul style="list-style-type: none"> Effect of online TPD on classroom practice is unclear Low costs when teachers access free TPD sites and content (e.g., iEARN, GENSE) High costs when courses have fees (WIDE World) Moderate content development costs (online courses, portals, and communities) Operating costs for facilitated courses, portals, and communities are moderate 	<ul style="list-style-type: none"> In some countries, may best be used to build capacity among master teachers, mentors, and teacher-college faculty