SECTION 6
TECHNOLOGIES
FOR TEACHER PROFESSIONAL
DEVELOPMENT—TELEVISION

GUIDING QUESTIONS

- Which of our TPD needs or goals can be met through the use of television broadcasts?
- To what extent does our country have access to the skills and facilities needed to produce programming in this medium? How extensive and reliable is the relevant infrastructure?
- How are these technologies currently used in our schools and communities? How could these programs be improved or complemented by additional programs in TPD?
- What methods and what content are appropriate to meet our TPD objectives?

SUMMARY

Television has been employed successfully in several of the largest developing countries, including Mexico, Brazil, and China. Television’s strengths include the power to engage viewers, to present conceptual information visually, and to show real people and environments from throughout the world. Television can support TPD by giving teachers opportunities to observe other teachers as they implement new instructional practices. By enabling teachers to anticipate what will happen, television reduces the risk inherent in experimentation.

Mexico’s Telesecundaria program is designed specifically to provide year-round curricula to rural junior-secondary schools, enabling college graduates with no training as teachers to guide students toward successful completion by supplementing educational programming with in-class discussion, lessons, and assessments.

With high production costs and high recurrent costs for broadcast airtime, television is most cost-effective when it is used to support large-scale projects. Telesecundaria reaches 1.2 million students each year, and over the course of its 30-year history has achieved respectable results: completion rates by Telesecundaria students are similar to those of students in regular schools; students’ performance on exams is slightly lower than that of students in regular schools.

In Brazil, both private- and public-sector channels carry educational programming that addresses vocational training, social issues such as HIV/AIDS prevention, and ways to improve classroom instruction. Salto para o futuro, broadcast by the government to address TPD, is watched by roughly 200,000 Brazilian primary and secondary teachers. The program’s goal is to guide teachers in instructional change, but results are mixed.
Without close connection to the concerns of teachers and support at the school level, TPD-focused television is more appropriate as a means to improve existing teaching and learning rather than a means to effect substantial change.

**TELEVISION FOR TPD**

Mexico, Brazil, and China have been among the leaders in the use of broadcast television for instruction in developing countries. Of these, programs in Mexico and Brazil are profiled.

Three main factors define the strengths and limitations of educational television:
- Powerful combinations of images and information
- High production and recurrent costs
- Highly skilled personnel

As a tool for TPD, television is often used to show teachers real teacher-student interactions in the classroom, enabling them to observe the management of learning activities. In this area, the uses of television and radio for TPD can be contrasted: whereas television shows teachers images of teachers and students in action, radio often is used to guide teachers through scripted activities.

**Mexico’s Telesecundaria Junior-secondary Curriculum**

Started in 1968 to address the shortage of teachers in rural schools, Telesecundaria today reaches over 1.2 million students in 16,500 schools serving grades 7 through 9—over 15 percent of total enrolment in junior secondary school.

Teacher shortages hit secondary schools especially hard, because secondary teachers are required to master advanced knowledge of one subject—typically language arts, science, math, or social studies. Addressing this challenge by broadcasting educational programming throughout the school day, Telesecundaria enables a single teacher to teach all subjects effectively.

Every day in Telesecundaria classrooms, students:
- Watch 15-minute lessons on television, then
- Take part in 35-minute follow-up activities guided by their teachers
- Complete assessments of their learning

The curriculum is focused on community-based concerns such as pollution, water issues or hygiene. Class size in Telesecundaria classrooms averages 22 students while that of regular junior-secondary schools is 35 students.

Teachers also participate in one-week pre-service trainings and in ongoing in-service workshops that build mastery of the curriculum and lead to improved teaching practice. The Telesecundaria broadcasts provide critical support for students and teachers in small rural schools.

**Brazil’s Television for TPD**

Both private-sector and public-sector channels offer educational programming in Brazil. The best-known channel, Canal futura, is funded by a consortium of Brazilian and multi-national corporations and operated by Globo, the world’s fourth-largest television broadcasting company. Canal Futura offers over 20 educational programs. One of Canal Futura’s first education programs, A-Plus, was intended for teachers.
The success of Canal futura’s education programming is based on scale. A-Plus was originally intended for teachers, but over time it expanded its programming to reach 13 million viewers; the Brazilian education system employs only two million teachers.

In 1996, the national Ministry of Education launched its own channel, TV Escola (“School TV”), broadcasting programs via satellite on TPD and student learning. The TV Escola program Salto para o futuro marked its 10th anniversary of daily broadcasting in 2005. The hour-long program presents a debate among three experts in education focused on issues in education theory and practice. Debates—a very low-cost format—are supplemented by short video clips that show practices and learning activities in action in real classrooms.

Teachers often view Salto para o futuro in groups at their school. The program is interactive: During the broadcast, teachers send questions, ideas, and opinions to the panel via fax, email, and telephone.

**Educational Impact**

The Telesecundaria and TV Escola channels are both operated by their national governments independently of commercial broadcasting. For this reason, programming can address audiences of students or teachers that are much too small for commercial broadcasters: Telesecundaria teaches 16,500 schools, 50,000 teachers, and 1.2 million students, and Salto para o futuro reaches roughly 200,000, or 10 percent, of Brazil’s primary and secondary teachers per year. Telesecundaria has reported the following results:

- **Completion rates equal to students in regular schools**
  73 percent of students enrolling in grade 7 at a Telesecundaria complete grade 9, a completion rate that is 5 percent lower than students in regular secondary schools. This difference is not statistically significant.

- **Student achievement lower than that of students in regular schools**
  62 percent of Telesecundaria students pass grade 9 reading exams, while 40 percent pass grade 9 math. Pass rates for students in regular schools are 76 percent and 50 percent.

Telesecundarias serve rural areas, populated by poor families in which youth often work. In this context, Telesecundaria’s completion rate is impressive. To properly assess the Telesecundaria test scores, results would require adjustment for socio-economic status and other factors.

TV Escola: Salto para o futuro tries to use TPD-focused programming to influence teachers’ classroom practices. Independent evaluation suggests that even though it incorporates interaction via fax, phone, and email, the program may not be connected closely to teachers’ day-to-day concerns to be effective. Researchers suggest that for Salto para o futuro to be effective, “it must advance beyond making requests or suggestions to in-service teachers, to become linked to the educational life of the school, rather than to proposals imposed by the central office.”

**Cost Considerations**

Television production costs are high, and airtime is expensive. In 1998, production of a 15-minute Telesecundaria module cost between US$30,000 and US$50,000 and required about 20 days to complete. Telesecundaria re-uses its instructional programs, but still reports high recurrent costs:

- Recurrent costs, over half of which are teacher salaries, are three times greater than the annualized investment in video production.
- Costs per student, at more than US$500 per year, are 15 percent higher than in regular schools.
- Initial investment in program production (US$594 million) has been followed by recurring costs of US$425 million per year.

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Questions for Further Discussion

Supported by long-term commitment and resources, Telesecundaria has achieved substantial impact in educational access and improvement. However, questions can be raised about opportunity costs and program flexibility:

- Over the course of the Telesecundaria’s 30-year history, what other long-term capacity-building and educational-improvement measures might have been by-passed as a result of the financial and organizational commitment to television?
- How can Telesecundaria take advantage of new developments in Internet access, video production and delivery, cut costing techniques and improvements in learning outcomes?
- With a substantial investment in Telesecundaria, how might Mexico’s secondary school program adapt as the country begins to emphasize computers and the Internet in schools?

Consider Using Television to Support TPD When…

Minimum capacity and infrastructure requirements can be met, including:

- Stable electricity is supplied to 90 percent of the area targeted
- Design, production, and other technical skills are available
- Committed long-term funding is at least equal to initial start-up and production costs
- Government or commercial broadcasting networks are available, with satellite broadcasting available if rural areas are involved

Problems to be addressed include:

- A scarcity of qualified teachers, especially in rural areas
- A large number of students who are unschooled or receive inadequate teaching

Program objectives include:

- Changing teaching and learning throughout the entire system
- Increasing teachers’ and students’ access to rich educational content

WEB RESOURCE

- Providing Teacher Training through Educational Television: The China Experience
  Yidan Wang provides an overview of the context, history, and impact of China’s use of in-service educational television to address the country’s high numbers of unaccredited and under-skilled teachers.
**TELEVISION IN TPD AT A GLANCE**

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<th>Roles in TPD &amp; education</th>
<th>Strengths</th>
<th>Limitations</th>
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<td>• Addresses shortages of trained teachers</td>
<td>• The medium is both powerful (moving images, audio, etc.) and familiar</td>
<td>• Visual medium does not guide teacher through scripted, hands-on classroom activities—unlike radio, television promotes “watch and learn,” not “do and learn”</td>
<td>• Fixed broadcast schedule—can be augmented by taping</td>
<td>• Per student recurrent costs of large-scale programs are low—but low recurrent costs have not ensured sustainability</td>
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<td>• Primary means of delivering content and concepts to students across the curriculum</td>
<td>• Can be used to “bring” viewers to the site of events and phenomena</td>
<td>• High development costs may limit testing, review, and revision before programming is launched</td>
<td>• Limited by access to electrical power</td>
<td>• Funding may combine contributions from ministries of communication, broadcast authorities, commercial broadcasters, and others</td>
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<td>• Development of teacher skills and knowledge</td>
<td>• Observing demonstrations of classroom management and other teaching practices helps teachers implement new techniques effectively</td>
<td>• Value of content may degrade over time—costs of revisions and new programming are high; visual images “show their age”</td>
<td>• Commercial broadcast rates are very high</td>
<td>• Lack of interactivity can be addressed through a range of affordable technologies—fax, email, telephone “call-in” formats, and by incorporating wait time, discussion questions, and facilitator directions into programming</td>
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<td>• Provides views of real classroom practices and learning activities</td>
<td>• Potential to reach large populations of students and teachers</td>
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<td>• Local installation includes cost of television, satellite dish (in rural locations)</td>
<td>• Impact is increased by teacher development, printed materials, school site visits and other means</td>
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<td>• Provides teachers with learning resources that show distant places, graphical representations of concepts, historical events, etc.</td>
<td>• Addresses equity and access issues—although access requires electrical power</td>
<td>• Supports instructional continuity across grades and subjects</td>
<td>• Costs of production and airtime may influence programming to reach audiences outside of schools</td>
<td>• Limited quantitative evidence of impact on teacher development</td>
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