Chapter 33

An Open Network of Digital Production Centers: Empowering Schools, Teachers, NGOs, and Communities with Educational Multimedia Creation Capabilities

Alfredo Alejandro Careaga
Ibero-American Network for Sustainable Development, Mexico

Alberto Ramirez-Martinell
Ibero-American Network for Sustainable Development, Mexico

ABSTRACT

In this chapter, the authors present the Network of Digital Production Centers, a modular, scalable scheme for the development of educational and cultural content in schools and nongovernmental organizations (NGOs) in the state of Veracruz, Mexico. The chapter describes its goals, philosophy, its operations, and its growth plans, as well as the results achieved during the first phase of its implementation. The authors frame the project within the overall objectives of its funding institution, the Ibero-American Network for Sustainable Development, an NGO that began this project with the goal of transforming traditional content consumers into developers and producers of educational and cultural digital materials. The learning curve in the field of user multimedia production is steep, but the Network of Digital Production Centers and the Ibero-American Network for Sustainable Development are harvesting the first set of tangible benefits and usable knowledge.

HISTORY

The Ibero-American Network for Sustainable Development (known by its acronym in Spanish, REDDES) is a Mexican nongovernmental organization focused on developing appropriate technological platforms to foster sustainable development, “the interaction of society with nature through technology” (REDDES, 2010). We believe that the selection of the correct technological package and the implementation of the appropriate strategies for its deployment can lead...
to a sustainable and ethical model of development. In particular REDDES is advancing two modular, scalable and interconnected programs:

1. The network of centers for the digital production of educational and cultural content, which we briefly describe in this chapter.
2. A network of centers for the rescue, development and dissemination of biophilic technologies for housing, water, energy, food production, waste disposal and environmental management whose roots go back to 1978 in the Research Center of Quintana Roo (CIQRO) and Sian Ka’an projects (Careaga, 1984, p. 119).

**CONTEXT**

The Network of Digital Production Centers was launched by REDDES in 2007 with the support of the Ministry of Education of the state of Veracruz (MEV). Veracruz is a region in Mexico where the delivery of educational services is particularly difficult for several reasons:

1. The geographical situation: The eastern Sierra Madre covers a large part of a territory characterized by peaks, canyons and ravines; thus access to the many small isolated communities is difficult.
2. The social situation: Veracruz has about 7.1 million inhabitants, 48.5% of whom live in rural areas. There are 22,000 communities, of which 63.8% have fewer than 50 inhabitants. Besides Spanish, fourteen other native languages are spoken by several ethnic communities, each with its own ancient culture and traditions.
3. Ecological, cultural and economical diversity: Diversity in these areas is the trademark of Veracruz. It has the highest mountain in Mexico, pine and cloud forests, desert, savanna and rain forests. It is rich in oil and other natural resources and houses important academic, industrial, commercial and touristic centers. However, it is also one of Mexico’s poorest states.

The Ministry of Education and the state government of Veracruz have realized that, in addition to the usual methods of instruction and delivery of educational services, digital technologies can offer innovative and interesting possibilities to overcome geographic, social and diversity limitations. Technology has been a catalyst for partnership creation among different state bodies, projects from the Ministry of Education, individuals and NGOs that have joined forces to improve the current ways in which education is being delivered to students of all levels. For instance, the itinerant Vasconcelos classrooms—a recipient project of the “2008 Access to Learning Award” from the Bill and Melinda Gates Foundation (2008 Access to Learning Award: Vasconcelos Program, 2008)—equipped with full information services and satellite connectivity, are installed on buses outfitted for all-terrain travel that reach the most isolated communities; the Clavijero Project, a consortium of higher education institutions that offers online education in formal and non-formal modes (http://www.clavijero.edu.mx/), and the Network of Digital Production Centers (http://www.rtpd.net) have been supported and projected to achieve goals that in other times were outside of government duties.

**Technology and Development**

Providing relevant knowledge is the most effective means for empowering underprivileged communities that strive for self-sustained development and higher levels of quality of life. Improving the local capacities and promoting individual and collective skills raises the self-esteem of its members and facilitates their autonomous management of