Chapter 5

# Using Portable DVD Players to Deliver Interactive Simulations for Training Health Care Workers in Kenya

**Wallace Hannum**
*University of North Carolina at Chapel Hill, USA*

## ABSTRACT

*This chapter reports on a project in Kenya that explored the feasibility of using interactive simulations delivered by portable DVD players as a technology-based learning solution for providing continuing education to nurses by taking the instruction directly to the workplace of the nurses rather than by removing them from their villages and clinics to transport them to the capital city for training. Technology-based learning using simulations holds great promise as an alternative or supplement to traditional classroom-based training in low-resource settings. This study demonstrates that technology has the potential to deliver learner-centered interactive video simulations that provide consistent content and uniform learning experiences that produced significant learning gains in complex content and had high acceptance from participants.*

## ORGANIZATION BACKGROUND

This case study is based on a public health project undertaken in Kenya by a non-governmental organization (NGO) based in the United States with an office and operations in Nairobi, Kenya. The project was developed to improve health outcomes for clients by improving the skills of Kenyan nurses. The NGO involved in planning and executing this project has served the public health needs of developing countries for almost 30 years. This NGO has worked in more than 50 countries with the support of the U.S. Agency for International Development, foundations, corporations and individuals. The NGO has provided technical support and assistance to ministries of health in several developing nations with a focus on improving the performance of health care providers, especially those focusing on reproductive health as a means to enhancing the overall health status of these countries.

Several agencies in Kenya participated in this project. The Kenyan Ministry of Health (MOH) was

involved in this project from its inception providing critical information and guidance along the way. Representatives from this project met with members of the Nursing Council of Kenya on several occasions to inform them of the project and to solicit information about the appropriateness of the methodology, the design of the simulations and the technology used to ensure a good fit with the realities of nurses across Kenya. Meetings were also held with administrators and faculty from the Kenya Medical Teaching College. They confirmed the appropriateness of the overall design of the simulations and acknowledged the potential educational benefits of the approach used. A second NGO located in the United States with experience working on health issues in a number of developing countries collaborated on scripting and development of the interactive simulations. While one organization had responsibility for conducting this project, people from many organizations were involved along the way from the initial needs assessment to the creation of the simulations and development of the DVDs and continuing through evaluation. The author served as the project director.

## SETTING THE STAGE

The health care status of people in Africa continues to lag behind the health care status of people living in other areas. Undoubtedly there are many factors that contribute to this including child nutrition problems, poverty, the low quality of many health care facilities and services, an inadequate number of health care workers, and several diseases that take a substantial toll including HIV/AIDS, acute respiratory infections, diarrhea, and malaria. In this regard, Kenya suffers as other nations in the region. While Kenya had been successful in achieving health gains during the 1980s and 1990s, this trend has reversed because of these problems and the rapid population growth Kenya experienced. Kenya has been losing skilled health

care workers to other countries in recent years that offer better financial packages and to the private sector. The public sector doctor to population ratio in 2004 was 3:100,000; the nurse to population ration was 49:100,000 (Chankova, et al., 2006). These numbers fall short of what is desirable for providing adequate health care.

Like many countries, both developing and developed, Kenya has an imbalance in geographic location of health care workers. This is typical in sub-Saharan Africa where skilled health care workers are predominately located in urban areas. Within Kenya, 42 percent of the doctors and 30 percent of the nurses are located in Nairobi and the Rift Valley provinces alone while more rural areas have considerably fewer doctors and nurses (Chankova, et al., 2006). Throughout the country, over half of all health personnel are urban based with four-fifths of the doctors being in urban areas. This imbalance in health care workers serves to exacerbate the shortage in health care workers that Kenya and many other nations face.

This case began with the belief that technology when appropriately used can impact social problems that developing nations face. Health stands among the most critical problems that burden developing nations. While there are many dimensions to improving the health status of people in developing nations, having adequately trained health care providers is essential. Using technology to train and support health care providers who are scattered across a country can be beneficial, perhaps even essential, in ensuring better health status of people living in developing nations. In this case, personnel from a number of countries collaborated on the design and development of a technology-based solution to help Kenyan nurses learn how to better interact with their clients and thus improve the quality and impact of their services. The rationale for this project was to bring together expertise from people in several countries to focus on using available technology to deliver potent training to nurses located at different sites in Kenya. The problem was identified in Kenya

## Related Content

### Computation of OLAP Data Cubes
Amin A. Abdulghani (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 286-292).*
www.irma-international.org/chapter/computation-olap-data-cubes/10834

### Discovery Informatics from Data to Knowledge
William W. Agresti (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 676-682).*
www.irma-international.org/chapter/discovery-informatics-data-knowledge/10893

### Secure Building Blocks for Data Privacy
Shuguo Han (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 1741-1746).*
www.irma-international.org/chapter/secure-building-blocks-data-privacy/11053

### Process Mining to Analyze the Behaviour of Specific Users
Laura Maruster (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 1589-1597).*
www.irma-international.org/chapter/process-mining-analyze-behaviour-specific/11031

### Profit Mining
Senqiang Zhou (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 1598-1602).*
www.irma-international.org/chapter/profit-mining/11032