UNIVERSITIES - DISTANCE LEARNING

University programs and Interactive educational materials are currently available from a multitude of university, vocational, and online content sources, allowing students at all levels to have a virtual presence for learning opportunities on practically any topic imaginable. Distance education rooms outfitted for video conferencing have provided a window into this content, but the challenge is to break down these barriers and deliver content anywhere. (IPX is working with Penn State University in the The Alliance for Earth Sciences Engineering and Development in Africa, http://www.aeseda.psu.edu/, to promote distance education on the Continent of Africa.)

In today's Information Age, learning is no longer confined within the four walls of a classroom. The instructor, armed with a textbook, is no longer the sole source of educational experience. Information resources are everywhere, often separated from the learner by time and space. Distance learning defines the process of connecting learners with these remote resources.

There are a variety of distance learning solutions for every educational need. Distance learning applications should begin with a clear understanding of the learner, as well as the educational needs and objectives of the organization. Technology options can then be considered that best address those understandings. A comprehensive distance learning solution will often be a combination of technology options, creating a set of learning tools that meet the needs of both the instructor and the learner. Some of these tools that are available today for distance learning include:

Distance Learning Systems

A comprehensive distance learning system will include a combination of technologies. For example, in a distance learning system that uses interactive video as the primary method of delivery, voice mail, electronic mail and fax technologies might be employed for additional interaction between learners and faculty and to provide support services for the distance learning system.

Two-Way Video Conferencing

The most effective distance learning system provides video and audio communications in both directions between learners and instructors. This is referred to as interactive video. All locations in an interactive video system are equipped with cameras, monitors, and microphones. Point to point and multipoint connections link learning sites and instructors and learners can see and hear each other. These connections use communications circuits that can deliver either full motion video or compressed video services. In both systems, the learning site is equipped with cameras and microphones.

A full motion, interactive video distance learning system is one that provides picture quality that is comparable, or close to, the quality of commercial television. These systems typically use VSAT, fiber optic cables and high capacity circuits to network learning sites together. High capacity networks are often built with private, dedicated circuits between locations in a distance learning system.

IPX provides Polycom, Tandberg and Life Size Two-way Video Conference solutions.

Multipoint & Bridging

As the name implies, a point to point connection involves interaction between two locations; and a multipoint connection involves three or more locations simultaneously. These terms are used to describe all types of conferencing: voice, data, and video. Multipoint connections are created using a bridge in audio systems or a Multipoint Control Unit (MCU) in video systems. Commercial multipoint services are available or multipoint technology can be installed as part of the distance learning system.

One-Way Video
The distinguishing characteristic with this distance learning application is that video signals are transmitted in one direction, from the instructor to the learners. The most common method of delivering the broadcast is by satellite. Components of a satellite broadcast systems include: The production facility for program origination, the satellite uplink for transmission of the program to a satellite orbiting the earth, the satellite transponder that receives the earth signal and retransmits that signal back to earth, satellite downlink equipment, and finally a site for people to view the program on standard television monitors.

The program that originates from one site is transmitted by satellite to a "footprint" that covers a very wide area. For example, satellite programs in this part of the world can be received simultaneously by multiple sites anywhere in the United States. Communications from the receiving sites back to the originating studio is accomplished using telephones, so learners can interact with the instructor.

Telephone and Audio Conference Technology
One of the simplest, most cost effective distance learning technologies available is the telephone. With user friendly equipment, you can access distance learning experiences, interact with experts, receive information updates, and share ideas with almost anyone, anywhere.

Computer Based Training
The electronic version of the correspondence course, CBT is typically self-paced instruction that learners access from desktop computers. The training materials might be installed on the local computer, CD-ROM, Laserdisk, or accessed from a computer network.

On-Line Classes
This term refers to courses where lectures, readings, and assignments are posted on computer bulletin boards and learners access and download the course materials. Other applications such as email are used for private communication between learners and instructors.

SMART Board interactive whiteboards provide the ability for educators to increase the ability to motivate learners. Combining the simplicity of a whiteboard with the power of a computer, the SMART Board interactive whiteboard engages students and audiences around the world. SMART Board interactive whiteboards bring a whole new level of interactivity to any classroom or boardroom. Combined with your computer and a projector, SMART Board brand products have the power to transform your space into a dynamic learning, training or working environment.

IPX delivers unprecedented video, voice, and data collaboration—anywhere. IPX solutions offer innovative designs that allow freedom to turn any space into a learning zone.

IPX has designed schools for the purpose of E-Learning and Distance Learning Applications.

IPX has designed and can deliver "Green Building" technologies via partners and construction crews.
IPX believes in staying in harmony with our world's environment and ecology. The building technology used to design these schools include the following characteristics:
- 274% Stronger (engineered to withstand 180+ mph wind)
- 50% - 75% more Energy Efficient
- Greater fire resistance than most other forms of construction methods.
- **Solar panel systems** (cooling & heating) available on demand

Structural Insulated Panels carry a firing rating of (5) on the UL scale of 0-100, with Asbestos being (0) and Red Oak being (100).

 Our product has been approved by HUD, UL, and IRC codes. They have been tested by RADCO, an independent third party testing agency, for strength and performance.

IPX can serve all types of commercial and residential housing requirements, either temporary or permanent structures, including, schools, commercial offices, custom homes, Man Camps, kitchen/dining units, recreation facilities, laundry areas, labor quarters, drilling/rig camps, dormitories, and medical clinics and refugee housing designs.

IPX has designed and created budgets for High Technology Schools for the Africa Region. The schools utilize IPX Building technologies, Solar Energy, VSAT technologies, VOIP Contact Centers, Video Conferencing - Distance Learning, Tele-Medicine, and array of solutions that will deliver US solutions to Africa.
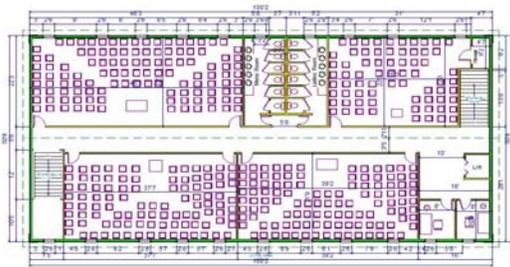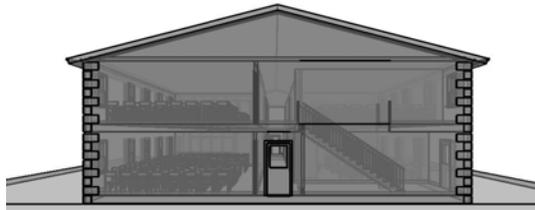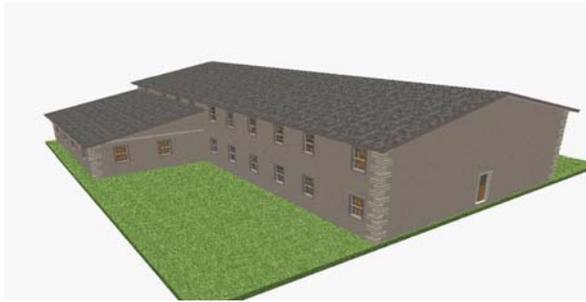
Some of the technology options that IPX has proven solutions include:

Communication Towers

Data Networks

Gateways for Long Distance, Fax, SMS, Cell

Lease VSAT Solutions

Man Camps and Modular Housing for Schools

Motorola Radios

Power Solutions

Procurement and Logistics

Satellite Solutions

Service and Support

Video Conference

Voice Solutions

Wireless Solutions