Pacific Newsbytes

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Telecom News from the Pacific Islands

Building Human Telecom Infrastructures in American Samoa
Providing affordable public service telecommunication networks

By Ellen Miyasato and Kaina Lingaton

As the potential for information technologies and telecommunications capacity is explored in American Samoa, collaboration in a variety of dimensions is emerging as a powerful catalyst for the invention of powerful "human infrastructures." This is so essential in a community that has recently built its system-wide high-speed telecom infrastructure.

Just a couple of years ago, "Telecommunications and Information Challenges in the Pacific Islands Region" commonly described the telecom news in the Pacific. *Pacific Newsbytes* outlined the many obstacles faced by educators, health care providers and other public service organizations:

- Geographically dispersed islands;
- High cost of telecommunications - too high for educational institutions, health care providers and other public service organizations and;
- Economic isolation;

The net result was the inability for organizations to share information, services and resources.

A phenomenal feat

Public service telecommunication networks could provide an affordable means by using partnerships, collaboration and commitment. The American Samoa Government Distance Education, Learning and Tele-Health Applications (DELTA) consortium was formed to oversee and implement telecommunication networks and serve the public need. Almost simultaneously, in 1998, the American Samoa Department of Education, with encouragement from the Lieutenant Governor, submitted an application for ERate funding (Universal Service Program for Schools and Libraries intended to assist rural areas in accessing comparable telecommunication services and costs as available in urban areas). In February 1999, the American Samoa Department of Education was awarded 3.9 million dollars for its year one ERate plan. Subsequent awards were made for years two and three.

One year later, America Samoa is now connected to the Internet on an ATM-based high-speed fiber optic network. This network has the potential to break through the boundaries of the traditional classroom and create new learning structures and strategies for educational institutions. Improvements include:

- Forty-five public and private schools network;
- Access to video teleconferencing facilities and Internet access;
- Interconnected networks extending to the neighboring islands of Manua and Aunu'u;
- Purchase of computers for schools ratio with the eventual goal of a 10:1 ratio;
- Eleven new servers for email, Web, Intranet applications, and file management services.

The road to implementation: Information Technology and Telecommunications Institute

How are administrators, teachers and students in American Samoa leveraging the impact of this integrated statewide information and telecom services network? Questions such as how can we enhance student and staff learning, increase intellectual and administrative productivity and improve academic and administrative effectiveness through the information technology and telecommunications have become the aim of American Samoa's "road to implementation."

Recognizing the need for a systemic approach to effective implementation and the need for capacity building, the Telecommunications and Information Policy Group of the University of Hawaii and the American Samoa Department of Education, Division of Curriculum and Instruction launched a two week Institute called "Information Technology and Telecommunications Institute," on August 11 to 25, 2000.

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Twenty-five participants reflecting a cross section of American Samoa policy leaders were engaged in intensive sessions. These representatives, who would serve as the on-island cadre leaders, included the Department of Education's curriculum and instruction specialists, technology coordinators, consortia leaders, and teachers; the American Samoa Government representative; and a member of the American Samoa Power Authority. The participants focused on developing foundational skills and content for maximizing the application of the complex telecommunications system, though at the same time, not compromising their fundamental American Samoa cultural values and heritage. As Sal Poloai, technology coordinator, so astutely stated: "We are to ensure that each learner is provided ample opportunities to grow intellectually, physically, morally and spiritually and to become avid participants in this global society. But with this in mind, we are also well aware of the importance of our heritage and culture and to constantly be a beacon to ensure that our cultural identity is not lost."

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Within this context, the participants focused on four major areas of American Samoa's capacity that would have implications and would impact the work of the Department and other agencies. These major areas included:

- Infrastructure, Policies, Issues, Procedures and Resolutions
- Online Information and Resources
- Interactive Communication Opportunities
- Publication and Production Opportunities

Participants came with their content (missions and goals, standards, curricula units of study), and the institute provided the learning environment. A digital gallery open to the American Samoa public displayed tools and products created by the participants.

It was just like Christmas

Being one of the first formal telecommunications institutes, feelings of anxiety and uncertainty soon gave way to exploration and experimentation. A sense of self-imposed intensity and tenacious probing swept over the room as participants completed their digital portfolio. Said Mr. Poloai, "It was just like children on Christmas day. They were so excited and thrilled and if this can happen with them, can you even begin to imagine how it will effect those who we create all of this for — our students. I think we live in very exciting times." And it was reflected the mood of the learning lab at Pago Elementary School.

Creating a learning lab environment

Team teaching and a learning laboratory approach to design, development, implementation and follow-up marked a critical element of the institute. From the initial planning, Sal Poloai and Michael Leau, technology coordinators; Philo Jennings, Assistant Director of Division of Curriculum and Instruction; Dr. Sili Sataua, Director of Education; Dr. Claire Poumele, Deputy Director, Instructional Support Services from American Samoa Department of Education; and staff at the Telecommunications and Information Policy Group (TIP-G) designed the phases of the institute to reflect the immediate needs of the participating entities.

An integrated training team included American DOE curriculum specialists, Veni Sapoaga (design elements), Sal and Michael (American Samoa System, Communication setup, policies and procedures) and TIP-G staff (Kaina Lingaton and Ellen Miyasato) on technical support and curriculum integration. This structure resulted in the development of authentic learning models for each participant.

How can American Samoa's telecom capacity impact student learning?

Terri Stanley, Social Studies Curriculum and Instruction Specialist; Jeff Chun, Health Specialist; Lina Galeai-Scanlan, Language Arts Specialist; and Netini Sene, Science Specialist are currently refining the Department's Educational Standards and have posted their curricula information online. Terri stated, "with the kinds of current capacity, there will certainly be changes in what we ask students to complete to demonstrate competencies." Capitalizing on the potential of students learning with global partners, several teachers are quickly making connections that support their curriculum. Laura Laolagi has her second graders participating in Kidlink's "Who Am I?" online collaborative project, exploring different communities around the world. Lomialagi Tauiliili's American Samoa Family [www.doe.as/dci/lagi/] will serve as a link for her own students to reflect on and better understand their Matai system as they compare

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family structures in a global context. Patricia Sataua's students are currently exploring the natural changes in their environment and collaborating with 4th graders in Hawaii and other Pacific islanders on environmental protection projects. It is Patricia's vision that students' voices will be heard as leaders in conducting "real" community projects[www.doe.as/dci/matafaolab/index.html].

On another level, Haili Ripley and his high school students are preparing their cultural art products as American Samoa's contribution to the artwork for the International Kidlink Web site. He and his students are looking forward to expressing American Samoa art forms through the Leoni High's "Taumafai Gallery," [www.doe.as/dci/- leonehigh/index.html] which will include the students' artwork with accompanying descriptive passages by the student artists.

Curriculum and Technology specialists are looking at more systemic applications, considering ways in which all teachers on all American Samoa islands have access to the curriculum, are able to communicate and interact with others in finalizing the curriculum standards. Terri Stanley has several projects. She is collaborating with a consultant in designing a technology workshop for high school teachers in October. She is also amazed at how quickly her colleague in Texas can access her material and provide feedback to her work. She comments that "this will certainly change the way we live, work and play — our island isn't as isolated as it once was." [www.doe.as/dci/socialstudies/] Netini Sene, science curriculum specialist is currently developing her plans for a science/math interactive site that will be launched as a "community" learning and resource site.

Beyond the Institute

The two-week workshop was the beginning and a catalyst for learning the potential of the system. The outcomes, however, far surpassed the expectations of the planning and development team. One of the most important outcomes of the institute was the realization that "learning begins with oneself," and with the current technologies, participants were empowered to "learn how to learn" with colleagues through listservs, tutorials and the sophisticated HELP modules. This has sparked the continuation of online professional development, American Samoa style.

Since the workshop, these participants are actively involved in almost daily online interaction with the team of facilitators. Follow up meetings through video teleconference meetings and online support have sustained the momentum developed during the institute. Several are implementing the WebCT courseware for current coursework conducted at the Community College and entertaining the idea of initiating a student online course. The Tech Coordinators, Sal and Michael, have developed the Department's Handbook, critical in common understandings and procedures relating to policies and procedures unique to American Samoa. These leaders have also outlined a two tier-training program, which includes over 13 modules, currently being implemented by Carri-Lee Magalei and Sharon Liu. [www.doe.as/dci/techcir/]

What's next?

Two major projects will expand American Samoa's telecom system:

- Video teleconferencing system in all high schools will enable schools and students to participate in course delivery and teacher training programs.
- Enabling all classrooms to be telephone and data ready including patch panels enabling video teleconferencing in the classroom.

These will further expand the potential for expanded student programs and professional development, which Dr. Sataua has personally supported with the goal of closing the digital divide for American Samoa's students and educators.

Although some consider implementation in its infancy, the "Information Technology and Telecommunications Institute," was a giant step in the DELTA and DOE's plan to establish organizational and personnel infrastructure. These accomplishments have emerged through the collective commitments and contributions by all agencies — a celebration of the powerful "human infrastructure" in American Samoa.

"This is an initial step in empowering local leaders that I have always wanted to see," concluded Sal, one of the facilitators. "My next dream is a Technology Conference held here in American Samoa where topics and showcase of ideas and projects can be discussed and shared here locally and how these can effect or impact our effort in nurturing our island culture. Too often ideas, knowledge, and skills are generated from off-island. But now, American Samoa stands at the threshold, where we can become active participants in the delivery of knowledge and skills to our people, our region and the global community."