

PEN-International
Postsecondary Educational Network-International:
Serving Deaf People Around The World

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Abstract

The Nippon Foundation of Japan has partnered with the National Technical Institute for the Deaf (NTID) at Rochester Institute of Technology, Rochester NY, USA, to establish a worldwide university network serving deaf students, entitled the Postsecondary Education Network International (PEN-International). The project's goal is to technologically link universities around the world that serve deaf and hard-of-hearing people. PEN-International's mission is to help universities, primarily in developing countries, apply state-of-the-art instructional technologies, improve and update their technical curriculum, and update their computer hardware and software for instruction. NTID and partner institutions are using their collective expertise in deaf education and technology to assist participating countries with faculty training; development of instructional products; and application of the worldwide web, information technology, and distance learning technologies to teaching and learning. In addition, student and faculty exchanges and joint ventures with information technology industries will be implemented. This paper reports on the successes of PEN-International's collaboration with Tsukuba College of Technology (TCT), Tsukuba, Japan; Tianjin Technical College for the Deaf of Tianjin University of Technology (TUT), Tianjin, China; Bauman Moscow State Technical University, Center on Deafness, Moscow, Russia; and the De La Salle University-College of St. Benilde's School of Deaf Education and Applied Studies, Manila, Philippines. Two key elements of collaboration with each PEN-International partner are central to project success; 1.) the creation of a professional faculty development model and training plan, and 2.) the design and construction of an instructional multimedia computer lab with videoconferencing capability. PEN-International training is based upon a professional development model that begins with a needs assessment, the creation of workshops that are objective-based, Web-based workshop resources, and a formative and summative evaluation of effectiveness. The ultimate goal of the entire effort is to improve student learning at partner universities. Each PEN-International partner is establishing a multimedia computer laboratory with videoconferencing capability, which can support student learning and faculty development of technology-based teaching solutions. To design a

multimedia lab that meets local needs, teachers and technical experts from each partner university consult with NTID technical experts and tour the various multimedia classroom configurations at NTID. These labs offer faculty a teaching/learning environment with the latest instructional technology. When not used for classroom instruction, the labs are generally available to deaf students for independent work. Videoconferences can also be scheduled in the labs for seminars and instruction.

Introduction

In June, 2001, Rochester Institute of Technology's National Technical Institute for the Deaf (NTID), Tianjin University of Technology (China), Bauman Moscow State Technical University (Russia), Tsukuba College of Technology (Japan) and The Nippon Foundation of Japan joined forces to create an international network supporting the technical education of postsecondary deaf students from around the world. The partnership's goal is to support the sharing of expertise among technological universities teaching science and technology to deaf students worldwide, particularly in developing countries.

The program, called Postsecondary Education Network International (PEN-International), works closely with faculty, staff and students at NTID, where it is based, to facilitate sharing NTID's 30 plus years of academic experience and expertise in postsecondary deaf education with its international partners.

PEN-International Goals

PEN-International is a first-of-a-kind international partnership. Its main components--faculty training, online learning technology, information technology, and instructional technology--are being used to:

- Improve teaching and learning
- Increase the application of innovative instructional technology
- Expand career opportunities for deaf and hard-of-hearing people.

Over a five-year period, PEN-International will work in at least six countries. PEN-International will enhance local capability and global networking in each participant country. Member institutions will eventually develop the ability to export what has been learned through the project to other programs serving deaf and hard-of-hearing students in their home countries and then to other countries around the world. PEN-International's partners are Tsukuba College of Technology (TCT) in Japan, Tianjin Technical College for the Deaf of Tianjin University of Technology (TUT) in China, Bauman Moscow State Technical University in Russia, and The De La Salle University-

College of St. Benilde's School of Deaf Education and Applied Studies in the Philippines.

Implementation Strategy

Each partner works with PEN-International to create a professional faculty development model and training plan and to design and construct an instructional multimedia computer lab with videoconferencing capability. Descriptions of these components of PEN-International follow.

Training

PEN-International training is based upon a professional development model that includes a comprehensive needs assessment, the subsequent creation of workshops that are objective-based, creation of Web-based workshop resources, and a formative and summative evaluation of effectiveness. The ultimate goal of the entire effort is to improve student learning at partner universities.

The training model is based upon the successful NTID Instructional Technology Consortium (<http://www.rit.edu/~ntidite>) faculty development paradigm. The NTID Instructional Technology Consortium (ITC) is a collaborative, faculty-driven initiative for enhancing teaching and learning with deaf and hard-of-hearing students through the use of technology and related innovative teaching strategies. PEN-International depends upon these teachers to teach other teachers about proven strategies for use with postsecondary deaf students. (The key component of PEN-International's training is the experienced NTID faculty and staff who are willing to share their experience with their colleagues from around the world.)

Multimedia Computer Laboratory

PEN-International partners work with individual institutions to establish multimedia computer laboratories with videoconferencing capabilities to support student learning and faculty-developed technology-based teaching solutions. To design these labs, PEN-International Officials bring teachers and technical experts from each partner university to NTID to meet with NTID technical experts and to see firsthand the various

multimedia classroom configurations that have proven successful for educating American deaf students. Labs built at partner institutions offer faculty a teaching/learning environment with the latest instructional technology. When not used for classroom instruction, the labs are generally available to deaf students for independent work. Videoconferences can also be scheduled in the labs for seminars and instruction.

Evaluation

PEN-International activities and outcomes are assessed using both a formative and summative evaluation approach. The overall PEN-International evaluation plan addresses the attainment of project goals, level of satisfaction by partner administrators and faculty, and improvement in student performance as a result of PEN interventions. Additionally, the role of each partner organization as regional and national leaders will be addressed.

The evaluation of faculty development is central to PEN-International goals and as such is a critical component of the evaluation plan. Ongoing evaluations of workshop, seminars, and training sessions are conducted following the professional development evaluation model developed by Thomas Guskey (Guskey, 2001). Guskey specifies five critical levels of evaluation of the impact faculty training as: Level 1. Participants' Reaction; Level 2. Participants' Learning; Level 3. Organization Support and Change; Level 4. Participants' Use of New Knowledge and Skills; and Level 5. Student Learning Outcomes.

Participants' Reaction

At Level 1, evaluation looks at the participants' initial reaction to the experiences. Questions such as: did participants like the experience, did the material make sense to them, was the information useful, was the presenter knowledgeable and helpful, and was the room the right temperature, were asked.

Participants' Learning

Level 2 examines the knowledge and skills that participants gained from the workshops, seminars, and training sessions. The focus is to determine if participants acquired the intended knowledge and skills. Indicators of successful learning reflected in

the evaluation also can function as a basis to design the content, format, and organization of the future workshops.

Organization Support and Change

According to Guskey, “Lack of organization support and change can sabotage any professional development effort, even when all the individual aspects of professional development are done right.” For this reason, evaluations must include information about organization support and change. At Level 3, evaluation focuses on organization characteristics and attributes necessary for success. Was implementation advocated, facilitated, and supported? Were sufficient resources made available, including time for sharing and reflections?

Participants’ Use of New Knowledge and Skills

At level 4, evaluation looks at the questions of whether participants effectively apply the new knowledge and skills in their professional practice and if the new knowledge and skills that participants learned make a difference.

Student Learning Outcomes

Level 5 addresses “the bottom line”: how the workshop training affects students or “What is the impact on students?” Measures of student learning include cognitive indicators (student performance and achievement), affective outcomes (attitudes and dispositions) and psychomotor outcomes (skills and behaviors).

Unlike Levels 1 and 2 where information is mostly gathered through questionnaires distributed at the end of a professional development activity, enough time must be given before conducting evaluation for levels 4 and 5. It takes time for participants to effectively apply new ideas and practices to their home settings because the implementation of such knowledge and skills is a gradual process.

Currently, PEN-International is conducting evaluations at the participants’ reactions and learning levels, Level 1 and Level 2 of Guskey’s evaluation guidelines. Follow-up evaluation information will be collected through questionnaires, participants’ written reflections and portfolios, and the performance and achievement records of their students, as stated in the project “Evaluation Plan”.

In addition, evaluation at Levels 3, 4, and 5 will occur in future extensions of the project as each partner institution exports what they learn to other institutions in their country.

About Our Partners

Tsukuba College of Technology (TCT) for deaf and visually impaired people was modeled after NTID when it was founded in 1990. It was the first of its kind in all of Asia and has proven in a very short period of time to be a leader in the technical education of people who are deaf and hard of hearing. These credentials led NTID to partner with Tsukuba College of Technology to create PEN-International. Tsukuba is the first and “lead” partner institution of this collaborative effort.

Tianjin Technical College for the Deaf of Tianjin University of Technology (TUT), the first technical college for the higher education of people who are deaf in China, was PEN-International’s next partner. Established in 1991, the college enrolls students from throughout China. Presently, more than 125 deaf students study technical disciplines that prepare them for productive membership in Chinese society. Twelve members of the TUT faculty have been trained at NTID since June of 2001. An 18-station multimedia computer classroom was installed at TUT and opened in October 2001.

Bauman Moscow State Technical University, Center on Deafness has been educating deaf students since 1934. In the early 1990s, the university administration expanded its programs and services for deaf students and established the Center on Deafness. Presently, approximately 250 students study in various programs across the university as well as in compensatory programs at the Center on Deafness.

Bauman faculty members visited NTID in July 2002 for training regarding, “English as a Second Language for Deaf Students at the University Level”. This week-long series of seminars was specially designed and developed by Gerald P. Berent, Ph.D., NTID Department of Research. The seminars were presented by senior members of the NTID faculty, based upon their years of experience in deaf education and English as a Second Language instruction.

During the same week, two technical experts from Baumann worked with NTID technical experts in developing specifications for their computer classroom and video conference facility, which was dedicated in November 2002.

The De La Salle University-College of St. Benilde's School of Deaf Education and Applied Studies (Manila, Philippines) is PEN-International's most recent partner. The College offers a bachelor's degree in Applied Deaf Studies, the first of its kind in that country. De La Salle fully subsidizes the education of significant numbers of deaf students in the Philippines. Established in 1991, initially as a small program for deaf students, it has evolved into a formal program—the School of Deaf Education and Applied Studies—with 26 faculty members and 120 students.

Two administrators from the College of Saint Benilde have attended seminars conducted by administrators and faculty from NTID and TCT in the USA and Japan. Additionally, a member of the CSB attended the English as a Second Language workshop in July 2002. CSB's multimedia computer lab opened in January 2003.

Collaborative Spirit

The goal of providing high quality education to deaf students at the postsecondary level is the unifying goal shared by all PEN-International partner institutions. By using their accumulated experience in educating deaf students, faculty and staff members from around the world who are involved with the PEN-International project are finding satisfying ways of bringing 21st century technology to students who are deaf. This project is a unique opportunity for education and technology to bridge cultural, social, and political boundaries and strengthen deaf education for thousands of people worldwide.

References

Guskey, T.R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership*, 59, 45-51.

Author's Note

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