



*English for International Deaf Students:
Technologies for Teacher Training and Classroom Instruction*

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Abstract

This article discusses the use of educational technologies for teaching English to college-level deaf and hard-of-hearing students in non-English-speaking countries. Deaf and hard-of-hearing students are a special language learning population for whom visually oriented educational technologies can play a critical role in providing compensatory spoken language input. [The Postsecondary Education Network \(PEN\) International](#) is dedicated to providing professional development to teachers of international deaf and hard-of-hearing students, facilitating the use of innovative instructional technologies in the teaching/learning environment, and furnishing its international partner institutions with state-of-the-art equipment. This article describes the successful use of educational technologies in a weeklong [professional development workshop](#) for teachers of English to deaf and hard-of-hearing students at postsecondary institutions in Russia, the Czech Republic, Japan, and the Philippines. An important goal of the workshop was to provide participants' with training in the use of educational technologies for improving English teaching and learning in their own institutions. Workshop follow-up initiatives involved the installation of equipment needed for using effective educational technologies in PEN-International's partner institutions and the on-site training of faculty and staff. Positive assessments of these efforts support the role of PEN-International in enhancing English language teaching and learning and improving deaf and hard-of-hearing students' prospects for educational and career success.

Introduction

Postsecondary Education Network International

The [Postsecondary Education Network \(PEN\) International](#) is funded by a grant to the [National Technical Institute for the Deaf \(NTID\)](#) from the [Nippon Foundation of Japan](#). NTID, one of eight colleges of the [Rochester Institute of Technology](#) in Rochester, New York, U.S.A., serves approximately 1,100 deaf and hard-of-hearing students. These students pursue associate's and bachelor's degrees in a variety of areas in technology, business, and arts and sciences. PEN-International shares its expertise with international partners that, like NTID, offer postsecondary educational programs to deaf and hard-of-hearing students. However, unlike NTID students, students in PEN-International's partner institutions are learning English in non-English-speaking communities.

The goals that the Nippon Foundation of Japan has established for PEN-International are to train faculty for improving teaching and learning, to apply innovative instructional technologies to the teaching/learning environment, to provide state-of-the-art equipment to international partners, to promote program self-sufficiency, and to expand career opportunities for deaf and hard-of-hearing students. In support of these goals, PEN-International has engaged in numerous outreach initiatives since 2001. This article describes PEN-International's initiatives involving the use of educational technologies, both for providing professional development to teachers of international deaf and hard-of-hearing students and for supplying partner institutions with state-of-the-art equipment for incorporating instructional technologies into their English teaching programs.

English Language Learning by Deaf Students

As is well-known, deaf and hard-of-hearing students (hereafter, the term "deaf" is used to refer to both deaf and hard-of-hearing individuals) often struggle to attain good literacy skills in the spoken language of the community in which they live. For these students, restricted linguistic access to auditory-based languages such as English, Russian, Czech, etc., often results in lower-than-desired levels of spoken-language literacy. These low literacy levels have serious negative effects on the educational and career attainments of deaf individuals. In an English-speaking community, deaf learners of English have more daily exposure to forms of the spoken language and have the benefit of many support services (e.g., sign language interpreting, captioning, etc.) in their educational settings. Furthermore, knowledge of American Sign Language (ASL) can facilitate the learning of English, and English can be represented visually in some form of signed English. In the United States, and especially at a college such as NTID, deaf students also have access to state-of-the-art methods, materials, and technologies used for teaching English (and all other subjects).

The challenges are obviously greater for deaf students studying English in non-English-speaking countries. Postsecondary programs for deaf students in other countries place a high priority on students' development of English language skills because of the prominent role that English plays in the world of technology and scientific inquiry. Furthermore, English skill development is generally a university requirement for all students attending postsecondary programs in those countries.

As great as the challenge is for deaf students' English language development in English-speaking countries, the challenge is tremendously greater for deaf students in non-English-speaking countries. In addition to the universal challenge that deaf students face in developing

literacy skills in a spoken language that they cannot hear, international deaf students do not have the benefit of daily exposure to English in whatever form. Instead, they may have exposure to and varying degrees of knowledge of the spoken language of their own communities. English is therefore truly a second (third, etc.) spoken language which these students are attempting to master. Furthermore, students in international programs may not have access to the kinds of support services that NTID students take daily advantage of, and they may not have access to the kinds of state-of-the-art methods, materials, and educational technologies such as those used for teaching English at NTID.

ESL Teacher Training Workshop

Workshop Organization

Participants. Many of the faculty members teaching English to deaf students in PEN-International's partner institutions have degrees in language-related disciplines (e.g., linguistics, English language and literature, foreign languages) but do not have formal training in the precise discipline of teaching English to deaf students. Recognizing the need for professional development in this area, PEN-International sponsored an intensive one-week professional development workshop for teachers of English to deaf and hard-of-hearing students in July 2002. The workshop focused on English-teaching methods and materials for use with deaf and hard-of-hearing students in non-English-speaking countries.

There were a total of nine participants representing four of PEN-International's partner programs: three professors from [Bauman Moscow State Technical University](#), four from [Charles University](#) (Czech Republic), one from [Tsukuba College of Technology](#) (Japan), and one from [De La Salle University—College of Saint Benilde](#) (the Philippines). Although the workshop covered the use of educational technologies, a concurrent workshop on the use of specialized

technologies was offered to an additional three participants from Russia and the Czech Republic who were educational technicians.

The primary workshop for the nine participants focused on current methods, materials, and technologies used in the field of teaching English as a second language (ESL). The workshop, "ESL Methods for Teaching English to Deaf Students in Russia and the Czech Republic" took place July 15-19, 2002, at NTID. As the title indicates, the workshop was originally designed for teachers of Russian and Czech deaf students; however, available space led to an invitation to the two additional participants.

Sessions. In view of the unique language learning challenges facing international deaf students—restricted access to spoken language input as a consequence of deafness and the fact that English is truly a second (foreign) language in their countries—the PEN-International workshop developer organized the workshop with the goal of presenting best practices not only from the general field of teaching ESL, but also best practices used specifically for teaching English to deaf students. It was felt that this combination would expose workshop participants to the most current and most relevant pedagogical and technological resources for teaching their students and for optimizing their students' English language learning.

Six half-day workshop sessions focused on the following English teaching topic areas:

1. Program Goals, Student Characteristics, and Instructional Approaches
2. Teacher Competencies and Academic English for Adult Students
3. Teaching Grammar and Writing
4. Teaching Reading and Vocabulary
5. The Use of Web-Based Technology for Teaching Deaf Students
6. Lesson Planning and Program Standards

Four additional half-day sessions covered supplementary educational topics:

7. What We Know About Deafness
8. Classroom Communication
9. Introduction to Online Learning
10. Pedagogical Considerations for Online Course Delivery

Presenters. In addition to the workshop developer, seven NTID faculty members were invited to develop or adapt materials and to co-present on topics within each of the six ESL workshop sessions. These faculty members were selected because of their many years of experience teaching English to deaf students and because of their particular expertise in specific areas outlined for coverage during workshop sessions. An additional three NTID faculty members and one Rochester Institute of Technology professional staff member presented the supplementary sessions.

Planning and Development Tools

Needs assessment. Although many of the general challenges of teaching English to deaf students in postsecondary programs in non-English-speaking countries can be anticipated on the basis of research and practice within the fields of ESL and deaf education, it was felt that an effective ESL workshop for educators of international deaf students should be driven by the specific student characteristics, the instructional activities, and the program goals of the unique PEN-International partner programs. Therefore, during the pre-workshop planning phase, a needs assessment survey was developed and distributed to professors in the Moscow and Prague programs.

A summary of the completed surveys, "[English Programs for Deaf Students at Bauman Moscow State Technical University \(Russian Federation\) and at Charles University \(Czech](#)

[Republic](#)," provided valuable planning information based on participants' responses to questions pertaining to their students' characteristics, current English proficiency levels, goals and objectives of their English language programs, instructional settings, available instructional technologies, available instructional materials, instructional activities engaged in, communication methods used, and the educational backgrounds of program faculty. The survey summary facilitated the selection of workshop topics and activities as well as the specific goals and learning outcomes anticipated for each activity.

Selection of topics and activities. On the basis of the needs assessment survey and guided by trends and developments within the fields of ESL and deaf education, the workshop developer specified the six ESL workshop sessions listed above and outlined the subtopics, activities, goals, and learning outcomes for each session. These sessions are fully specified in the [PEN-International ESL Workshop Description and Schedule](#). As an example of topic coverage during individual sessions, the subtopics covered during Session 5, "[The Use of Web-Based Technology for Teaching Deaf Students](#)," included the following:

- a. Using the World Wide Web to teach English
- b. Exploring ESL web sites online
- c. Critiquing ESL web sites
- d. The use of "IdeaTools" ([Ting, 2000](#)) in teaching English to deaf students

Activities during the six ESL sessions were to include a variety of traditional and technological presentations and tasks. These activities included the following:

- a. multimedia overviews (documents, PowerPoint presentations)
- b. demonstrations
- c. videotape analysis

- d. discussion (small groups and full group)
- e. hands-on activities
- f. critiques of ESL methods and materials
- g. development of ESL lesson plans

Review of methods, materials, and research. Once the workshop sessions were outlined and the activities, goals, and learning outcomes were specified, a review of current methods, materials, and research in the fields of ESL and deaf education was conducted. The purpose of this review was to identify appropriate resources to be used within each workshop session and to identify areas where original materials would need to be developed. For some sessions, published ESL books were identified and obtained. Examination of these books revealed that several books published by the professional organization [Teachers of English to Speakers of Other Languages](#) (TESOL) could be adopted or adapted for use during the ESL workshop. For example, several books from TESOL's *New Ways* series were determined to be appropriate for use in developing Sessions 2-4. Examples of these books are Freeman and Cornwell (1993), Nation (1994), and White (1995).

The books in TESOL's *New Ways* series contain hundreds of short lessons, exercises, surveys, and other activities for teaching all ESL skill areas, for teacher training, for addressing the needs of different kinds of learners (e.g., adult learners), and for discipline-based ESL (e.g., content-based instruction). The ESL workshop developer enlisted the assistance of an NTID student temporarily employed by PEN-International in selecting specific lessons from the *New Ways* books that seemed appropriate for use during workshop sessions. That is, as part of the workshop development process, it was felt that a deaf student would be the most valuable

resource for selecting specific activities that in her estimation would be manageable, meaningful, and relevant to the needs of deaf students learning English.

For each workshop session, presentation materials were developed from existing ESL and other English-teaching resources as described above, and in other instances original materials were produced. For example, original materials consisted of special forms for participants to use in [critiquing ESL materials](#), forms for [critiquing ESL web sites](#), a checklist for [ranking problematic English structures](#) (adapted from Berent, Samar, & Parasnis, 2000), worksheets for developing lesson plans, and so on. Methodological aspects of the ESL workshop were presented in [Berent and Clymer, 2003](#).

Presentation Tools

The ESL workshop materials were developed for presentation and use by participants using a variety of presentation tools, both traditional and technological. This section describes the forms in which the various materials and media were developed, presented, and utilized by participants.

Classroom teaching technologies. The ESL workshop sessions were presented in a "high tech" classroom at NTID that was equipped with a PC computer, a document camera, an LCD projector and screen, and a VCR with a TV monitor. The classroom also included traditional teaching tools—a white board with dry-erase markers and a flip chart with markers.

Print materials. Print materials used at the ESL workshop consisted of documents produced with word processing software (e.g., Microsoft Word) and materials photocopied from published materials for one-time use during the workshop. Some originally produced and photocopied materials were scanned, converted to pdf files using Adobe Acrobat software, and

posted electronically on the Rochester Institute of Technology library web site. Documents posted electronically could be accessed by workshop participants through the use of a password.

PowerPoint. Many of the workshop materials were produced and presented using PowerPoint presentation software. Most PowerPoint materials and other print materials were distributed to participants in hard copy for easy reference and future use. All such materials were contained in workshop notebooks that also included the complete workshop schedule, participant information, maps, information on planned excursions, and other useful information. All workshop materials were also posted on the World Wide Web.

Videotape. Because the PEN-International ESL workshop occurred during the month of July, NTID classes were not in session. Therefore, participants did not have the opportunity to observe NTID teachers and students in their actual classrooms and laboratories. To compensate for this situation, ten NTID English instructors and their students were videotaped in actual classroom settings during spring quarter 2002. These instructors taught English reading, writing, and literature courses at a variety of English proficiency levels and using a variety of teaching methods and styles. The workshop developer studied these videotapes and selected illustrative samples from each videotaped class, which were combined to produce a 30-minute NTID English Teaching Videotape.

Accordingly, during Session 1, workshop participants were able to observe NTID teachers and students in action. At that session, the chairperson of the [NTID Department of English](#) commented on the videotaped segments and pointed out specific teaching approaches and styles, types of English-teaching activities, teacher-student interactions, and classroom communication and dynamics. This videotape presentation and discussion were valuable to participants in illustrating a real context for considering applications of methods and materials presented during

the workshop and for comparing NTID English instruction with English instruction in participants' own programs.

Web-based tools. The computer in the workshop high-tech classroom was Ethernet-linked to the World Wide Web. Web-based presentations occurred during workshop Session 5 and included an overview of "IdeaTools" ([Ting, 2000](#)), an instructional development tool developed at NTID for course building and management; demonstration of ESL web sites that have potential use for teaching English to deaf students; and demonstration of an NTID-developed web site, "Supporting English Acquisition" ([Berent, 2003](#)), designed as a professional development resource for teaching English to deaf students.

During Session 5, participants also had the opportunity to work individually on laptop computers that had wireless Internet connections. Their task was to locate ESL web sites and to evaluate them for their potential usefulness with deaf students in the participants' own programs.

Another web-based tool that could be accessed by participants was the [PEN-International ESL Workshop](#) web site, which posted all essential information about the workshop, the workshop schedule, and links to workshop materials. Participants had access to an NTID computer lab during periods of free time, when they could view online materials at their convenience.

Archiving and Reference Tools

Access to workshop resources. A unique feature of the PEN-International ESL Workshop was the online posting of (a) pre-workshop, (b) during-workshop, and (c) after-workshop readings and links to relevant web sites. The URL to these postings was provided to workshop invitees during the pre-workshop planning and development period. The postings were associated with each of the six ESL sessions. The three categories of postings allowed

participants to come to the workshop prepared with background information, to have online access to all materials used during the workshop and for later reference, and to have access to materials determined to be relevant to topics covered during the workshop and posted at a later time after the workshop. Such archiving keeps the ESL Workshop experience alive and active for participants as they consider how to incorporate what they learned within their own programs. It provides an in-depth review and opportunities for extended learning.

As examples of the three categories of postings, in association with Session 1, "Program Goals, Student Characteristics, and Instructional Approaches," pre-workshop resources included the document summarizing the English programs at Bauman Moscow State Technical University and at Charles University. Reading this document before attending the workshop would allow invitees to examine for accuracy the information that they had provided in the needs assessment survey and also to compare the goals, student characteristics, and instructional activities of their separate programs. In association with Session 2, "Teacher Competencies and Academic English for Adult Students," an example of a posted during-workshop reading is a PowerPoint summary explanation of [English for Academic Purposes](#). As noted, most of the during-workshop materials were also contained in hard copy in participants' workshop notebooks. In association with Session 3, an example of posted after-workshop readings is a selection of exercises from *New Ways in Teaching Grammar* (Pennington, 1995). Access to these published samples requires a password and the materials are unable to be printed from the web site.

Videotaped presentations. During the workshop planning and development stage, as the seven invited NTID faculty presenters planned and prepared their presentations, PEN-International staff videotaped their presentations. These videotaped versions were not used during the workshop. They were produced for archiving purposes and as back-ups in case of

unforeseen circumstances that might prevent an individual from presenting at the workshop during the week of July 15, 2002. These videotapes are now available for use by PEN-International in providing on-site or online professional development for partner institutions.

Photography. During the ESL workshop and during planned social events and excursions, PEN-International staff took hundreds of digital photographs. After each morning workshop session, photographs of participants and presenters taken during that session were printed and posted in the workshop classroom for participants to peruse before their afternoon sessions began. These colorful images provided a visual and often humorous recounting of the day's activities and contributed to the motivation of the already highly motivated workshop participants. The photographs, some of which are posted on the PEN-International web site, constitute a [visual archive](#) of the total workshop experience. These photographs were also copied onto compact discs and mailed to all participants after the workshop.

CD-ROM. A comprehensive CD-ROM of all workshop materials has been produced. This CD-ROM is yet another archiving and reference tool associated with the ESL workshop. This CD-ROM can also be used to provide professional development training to PEN-International's partner institutions.

ESL Workshop Evaluation

The workshop developer created evaluation forms for each ESL session as well as a final workshop evaluation form. Workshop participants completed the relevant forms immediately after each session. In every instance, workshop staff emphasized the importance of being totally honest and critical so that major improvements could be made in future workshops. Participants were told not to respond out of gratitude or respect but to be as candid as possible. Each ["Session Evaluation Survey"](#) and the ["ESL Workshop Final Evaluation"](#) contained items eliciting rating

scale responses as well as open-ended questions. A partial summary of the workshop evaluations is provided below.

Individual ESL Sessions

Averaged responses. Rating scale responses from the six individual ESL session evaluation surveys were combined and an average score was calculated for each response category. These percentages, based on the responses of the nine participants, are provided in Table 1.

Insert Table 1 here

Table 1 reveals that participants' averaged responses associated with the six ESL sessions were very high, with most responses falling within the "strongly agree" or "agree" categories. The highest average responses pertained to questions #1 (well-organized content) and #4 (use of media, material, and handouts), followed by #6 (comfort asking questions and interacting).

The lowest average response occurred in association with question #5 pertaining to pacing and the amount of information covered. The workshop developer made a conscious decision to cover a large number of English-teaching topics in order to expose participants to as many trends, developments, and technologies within the fields of ESL and deaf education as possible. The thought was that follow-up workshops could provide more detail on a fewer number of topics that participants would identify as the most critical and relevant in this initial ESL workshop. The relatively lower response to question #5 suggests that it might be prudent to target a smaller number of English-teaching topics in future workshops or to extend the workshop period beyond five days.

Session 5 evaluation. Because the focus of this article is on how English language teaching to international deaf students can be enhanced through the use of educational technologies, the

complete evaluation of Session 5, "The Use of Web-Based Technology for Teaching Deaf Students," is provided in the [appendix](#).

The rating scale averages for the nine participants reveal that they rated Session 5 very highly. In comparison with the average session ratings shown in Table 1, participants' ratings of the six statements for Session 5 exceeded the averaged percentage ratings for "strongly agree" with the exception of statement 6, which equaled the average. Participants' very high ratings of Session 5 demonstrate the high value they place on the importance and need for training in educational technologies. In fact, only one other session, "Teacher Competencies and Academic English for Adult Students" (Session 2), received a higher total average score (by three percentage points) on "strongly agree" ratings.

The second rating scale for Session 5 shown in the appendix pertained to the question, How much did each component of this session contribute to your own professional development? All of the participants selected the highest rating "very much" for the component devoted to the use of "Ideatools" (Ting, 2000) in teaching English to deaf students. This topic may have been valued the most because it involved the demonstration of an actual course built and managed using an NTID-developed web-based software program for teaching reading and writing skills to deaf students. That is, this technology was presented in its totality, including concept, design, targeted skill areas, development, implementation, student-teacher interaction, and efficacy.

Participants' open-ended responses, shown in the appendix, to What did you like best about this session? and How could this session be improved? validate their very high rating scale responses for Session 5. Their answers to how the session could be improved emphasized their desire for more time devoted to training in these web-based technologies.

Final Workshop Evaluation

Participant satisfaction. The PEN-International ESL [Workshop Final Evaluation](#) contained seven rating-scale statements pertaining to satisfaction with the total workshop experience, number of topics covered, satisfaction of workshop goals, likelihood of using learned information with participants' own students, likelihood of making changes in one's own teaching, helpfulness of online pre-workshop readings, and the likelihood of studying workshop materials and post-workshop readings after returning home. Participants' ratings of these statements were very high; ratings of "strongly agree" averaged 86% per statement.

The statement receiving the lowest "strongly agree" rating (56%) was "The English-teaching methods, materials, and technologies that I learned about this week can be used to teach deaf students in my own program." This percentage probably reflects the fact that it can be difficult to make changes in one's own institution because of limited resources for effecting change, requirements of existing courses and curricula, and resistance to changing long-standing pedagogical traditions of a culture. Fortunately, the goals and activities of PEN-International extend to equipping international partners with state-of-the-art equipment for using new instructional technologies and to providing onsite training and professional development. These field initiatives, endorsed by the partner institutions' administrators, greatly increase the prospects for actual implementation of PEN-International's English teaching training methods, materials, and technologies.

Ranking of sessions. The final evaluation included another item that provided valuable feedback to the PEN-International workshop organizers. This item asked participants to rank the six ESL sessions three times according to (a) how well the session was organized and presented,

(b) the degree to which the session contributed to their own personal knowledge, and (c) the relevance of the session to their own program and teaching needs.

Session 3, "Teaching Grammar and Writing," was rated highest in terms of organization and presentation. This kind of assessment would be external to participants' needs but would elicit perceptions of the logic of topic selection, the clarity of presentations, and the quality of session materials and activities. Session 4, "Teaching Reading and Vocabulary," was rated highest in terms of relevance to program and teaching needs. This is an expected rating in view of the primary goal of preparing participants' students to access and comprehend print and online educational and scientific English materials. Session 5, "The Use of Web-Based Technology for Teaching Deaf Students," was rated highest in terms of contribution to personal knowledge. This rating underscores the fact that participants' greatest professional development needs pertain to learning and applying educational technologies for enhancing English language teaching and learning for their international deaf students.

Workshop improvement. Participants' responses to the final evaluation question, How could the workshop have been improved?, are listed in Table 2. These responses summarize participants' conclusion that professional development in educational technologies is their greatest need and that, in future workshops, more time needs to be reserved for this and other topics.

[Insert Table 2 here](#)

Continued Success

Evidence of the continued success of the PEN-International ESL Workshop initiative is apparent through several ongoing actions. First, workshop participants have continual access to

the ESL Workshop link through the [PEN-International](#) web site. Second, the ESL workshop content is available to and has been shared with other PEN-International partners. Third, workshop content is available through the production and distribution of a CD-ROM. Fourth, PEN-International staff continue to visit and provide on-site training to partner institutions. And finally, PEN-International has installed new laboratories at partner institutions that contain high-tech, state-of-the-art educational technologies and equipment.

In conclusion, the participants' overall high ratings and positive comments regarding the July 2002 PEN-International professional development workshop for teachers of English to international deaf and hard-of-hearing students confirm that the combination of technological and traditional educational resources contributes to highly successful teacher-training experiences.

Supplementary Technology Training

As noted earlier, the PEN-International ESL Workshop included four supplementary sessions. Two of these sessions provided training in the use of educational technologies for teaching and learning. In addition, a concurrent workshop on the use of specialized technologies was offered to an additional three participants from Russia and the Czech Republic who were educational technicians.

Supplementary Educational Technology Sessions

[Introduction to Online Learning](#). This comprehensive workshop session focused on the history of online learning, resources required to implement an online offering, and how to design online recourses specifically for deaf learners. This was a hands-on session in which participants were able to explore and compare differences among various instructional design and presentation options from actual online resources.

[*Pedagogical Considerations for Online Course Delivery*](#). This workshop session presented a wide-ranging review of the characteristics of good course design and successful distance learning teaching techniques, and it emphasized the importance of utilizing an instructional development model when constructing online resources. Online learning events were categorized on the basis of level of interaction between faculty and students: learner and content, learner and teacher, and learner and learner ([Mishra, 2001](#)). The advantages of different levels of teacher and student interactions were contrasted in the context of the teaching and learning needs of deaf students.

[*Concurrent Workshop on Specialized Technologies*](#)

A smaller group of technical experts and engineers from the same partner countries as the English-teaching professionals were given the opportunity to learn from NTID experts about implementing networks and learning environments. Topics of discussion included an overview of the NTID computer network design, details of designing and maintaining student computer labs, and designing, installing and implementing "smart classrooms" ([Cornell University, 2004](#)). The information gathered from these discussions was used in the design of the PEN-International partner computer labs, especially the lab established at [Bauman Moscow State Technical University](#) in November 2002.

Educational Technology Laboratories

As already noted, two of the goals that the Nippon Foundation of Japan has established for PEN-International are the provision of state-of-the-art equipment to international partners and the support of application of innovative instructional technologies to the teaching/learning environment. In satisfaction of these goals, PEN-International has installed and equipped educational technology laboratories in its partner institutions and has provided faculty and staff

with training in the use of this equipment for improving English instruction to deaf students in their programs.

Laboratory Installation

Workshop follow-up initiatives involved the installation of equipment needed for using effective educational technologies in PEN-International's partner institutions and the on-site training of faculty and staff. Positive assessments of these efforts support the role of PEN-International in enhancing English language teaching and learning and improving deaf and hard-of-hearing students' prospects for educational and career success.

During the 2003 academic year, Tsukuba College of Technology reported that the PEN-International-sponsored multimedia computer laboratory at their college was used 26 hours per week for classroom instruction and an additional 30 hours per week as a student laboratory. Bauman Moscow State Technical University reported 30 hours per week for instruction and 27 hours per week for lab usage ([DeCaro & Clymer, 2004](#)).

Technology Training

The faculty development initiatives of PEN-International have expanded to include more emphasis on instructional technology, beyond the use of standard productivity and web design applications. Current work has focused on the use of instructional development to guide the implementation of technology solutions as part of curriculum design.

For this purpose, PEN-International has developed an entire online graduate course entitled "[Educational Technology and Teaching](#)," which focuses on applications of educational technology to deaf education. This course, used by graduate students at NTID as well as by the faculty of PEN-International partners, provides an overview of the use of educational technologies to enhance the learning experiences of deaf students. The selection, development,

implementation, and evaluation of technology-based solutions are all addressed in this course through an instructional development model.

During a recent PEN-International [workshop series](#) offered at Ratchasuda College in Thailand, attending faculty members learned proven instructional development principles and processes for developing curriculum and creating materials. During the workshops several participants expressed their need to employ specific instructional technologies for teaching English. Because of the online availability of the PEN-International 2002 ESL workshop, presenters were able to effortlessly access and incorporate specific principles and practices for teaching English to deaf students into their general instructional development presentations at Ratchasuda College.

Progress on Applying Educational Technologies

During PEN-International project year three, great progress was made in providing training and faculty development to partner institution faculty for the establishment and/or enhancement of PEN-International-sponsored computer labs ([DeCaro & Clymer, 2004](#)). New labs were established at Beijing Union University and at Changchun University, both in China. Additionally, plans are underway to enhance labs at both Tianjin University of Technology and Bauman Moscow State Technical University. All PEN-International labs are designed for faculty instruction and student lab use. Additionally, all labs have videoconference capabilities to permit direct communication between partner institutions.

Conclusion

The July 2002 ESL teacher training workshop was an early success for PEN-International. It addressed the dire need for effective, state-of-the-art methods, materials, and instructional technologies for teaching English to deaf international students. Its planning, preparation, and

presentation provided participants with carefully developed, expertly executed, high-quality teacher training. Importantly, this workshop experience is not frozen in time. The before-workshop needs assessment and readings, the during-workshop multimedia presentations and activities, the after-workshop archiving of materials and their ongoing availability, and the follow-up initiatives and use of workshop materials and technologies in new settings validate the workshop's broad, continual appeal and efficacy. The workshop established itself as a highly effective model for ESL teacher training and for deploying appropriate instructional technology solutions in the design, development, and delivery of similar content for future PEN-International workshops.

In addition to PEN-International's follow-up outreach activities discussed above, the success of the 2002 workshop prompted the leadership of the deaf education program at Charles University in Prague to host a similar [English-teaching workshop series](#) for 75 teachers of deaf and hard-of-hearing students in the Czech Republic. This workshop, similar in format and content to the 2002 workshop at NTID, took place August 22-27, 2004, under the sponsorship of PEN-International and Charles University. This progression from PEN-International partners attending training at NTID and then offering similar training to colleagues within their home countries is a fulfillment of the PEN-International vision. This vision sees partners first as importers of knowledge and skills, promoting self-sufficiency, and subsequently as exporters of similar knowledge and skills locally. It is through this vision that the network continues to grow in order to have a positive impact on the educational and career success of deaf and hard-of-hearing students worldwide.

However, it is also important to emphasize that the PEN-International ESL workshop model is not limited to the English language learning needs of deaf students only. Despite the

specific purpose of the PEN-International 2002 ESL workshop to provide professional development to ESL teachers of deaf students, it should be fully apparent that the ESL teacher-training objectives of the workshop addressed sound pedagogy and cutting-edge instructional technology desirable for enhancing any ESL teaching/learning environment. If there is any difference in pedagogical focus between the PEN-International workshop and professional development for teachers of hearing ESL learners, it is the fact that the PEN-International workshop focused largely on reading, writing, grammar, and vocabulary skill development. Materials and technologies focusing on these skills are readily accessible to students in the visual/print modality, in contrast to listening and speaking skills. Even so, in certain situations listening and speaking can also be relevant for deaf and hard-of-hearing students depending on program goals, learners' degree of hearing loss, and individual preferences for the use of speech. Choice of topics notwithstanding, the PEN-International ESL workshop model discussed in this article serves as a template for successful English-language teacher training broadly.

Finally, readers should be reminded that the PEN-International ESL workshop participants identified educational technologies as their greatest professional development need and requested that more time be reserved for this topic in future workshops ([Table 2](#)). PEN-International remains dedicated and active in addressing this worldwide need for educational technology training for teaching English to deaf and hard-of-hearing students. What is particularly noteworthy is the dual use of multimedia computer laboratories—classroom instruction as well as student laboratory usage—that was reported in the PEN-International year three report ([DeCaro & Clymer, 2004](#)). This dual usage is an indicator that, in providing future professional development, PEN-International must focus as much on strategies for training teachers to

facilitate *student* use of cutting-edge educational technologies for ESL learning as on strategies for *teacher* use of educational technologies for ESL teaching.

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Table 1

Averages for Individual Sessions 1-6 by Response Category for Each of the Six Questions

For each item below, please check the response that best describes your opinion.

SA = Strongly agree A = Agree N = No opinion D = Disagree SD = Strongly disagree	% SA	% A	% N	% D	% SD
1. The content of this session was well-organized.	91	9	0	0	0
2. The presentations were clear and understandable.	85	15	0	0	0
3. Information from this session will help me in my teaching.	85	15	0	0	0
4. The use of media, materials, and handouts were effective in supporting the information presented in this session.	91	9	0	0	0
5. The pacing and amount of information covered in this session were just right.	69	29	0	2	0
6. I felt comfortable asking questions and interacting with the presenters and the other participants.	89	9	2	0	0

Table 2

Participants' Responses to Final Evaluation Question Pertaining to Workshop Improvement

How could the workshop have been improved?

1. More practical instruction in working with computer: e.g. WWW ELT pages, etc.
2. If we could have longer time slots for subjects that we are weak in (technology aspect of the workshop). Maybe less on extra-curricular activities so we could devote more time to the “real stuff”?
3. As it was already mentioned in my previous evaluation, some sessions or presenters would deserve and need more time (e.g., web based technology, teaching reading and writing and vocabulary).
4. [BLANK]
5. Workshop itself has been perfect.
6. A week is certainly not enough. We should have been given longer time.
7. One week is not enough.
8. It could not have been better. Believe me.
9. [BLANK]

Appendix

Session 5 Evaluation Survey: The Use of Web-Based Technology for Teaching Deaf Students

For each item below, please check the response that best describes your opinion.

SA = Strongly agree A = Agree N = No opinion D = Disagree SD = Strongly disagree	SA	A	N	D	SD
1. The content of this session was well-organized.	100%				
2. The presentations were clear and understandable.	88.9%	11.1%			
3. Information from this session will help me in my teaching.	100%				
4. The use of media, materials, and handouts were effective in supporting the information presented in this session.	100%				
5. The pacing and amount of information covered in this session were just right.	77.8%	11.1%		11.1%	
6. I felt comfortable asking questions and interacting with the presenters and the other participants.	88.9%	11.1%			

How much did each component of this session contribute to your own professional development?

Rate each component on a five-point scale: 5 = very much 3 = a little bit 1 = not at all	5	4	3	2	1
Critique of ESL Reading/Vocabulary Materials	77.8%	22.2%			
Use of "Ideatools" in Teaching English to Deaf ...	100%				
Using the World Wide Web to Teach English	88.9%	11.1%			
Exploring ESL Web Sites On Line	77.8%	22.2%			
Critiquing ESL Web Sites	66.7%	33.3%			

What did you like best about this session?

<ol style="list-style-type: none"> 1. [NAME]'s absolutely charming style of presentation. 2. Hands-on experience with the laptop; I was overwhelmed by the way you communicate with students electronically. How effective it was. How much more ? the learning process becomes. 3. I'm greatly impressed by using tools while working with the students. It's a very time consuming thing and useful for both students and instructors. Exploring ESL web site on line is a very useful thing for me personally. Very grateful for the chance. 4. The presentation was excellent. I was impressed. I think that it was very important that we were assisted during the whole class. Thank you! 5. A list of contacts to ESL and ELT web sites presented by [NAME]. 6. The practical usage of a notebook and a list of very useful web addresses which we can make use of a lot when back at home.
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continued

7. Absolutely everything. It is very hard to rate. Writing and literature course by [NAME] has been very well designed. It is a thorough material that must be appreciated by all of the students. Fantastic. Great job. Thank you. Presentation of world wide web on line and personal exploration of WWW have been great ideas. Personally I consider the list of WWW to be a great resource material. Thank you.
8. The hands-on exercises – this has given us a chance to manipulate the equipment which we don't have a little access back to our home base. It is very good experience and a real one.
9. Writing and literature. Web-based approach to reading/writing instruction.

How could this session be improved?

1. More time is needed. The subject is extremely important.
2. By allowing more time for us to absorb the amount of new info.
3. [BLANK]
4. I think that the time limit of the session was too short. We should have been given more time to explore the web sites.
5. It was just OK like that. Perhaps, more time devoted to going through and discussing what is hidden under the above mentioned internet web sites.
6. Maybe it would be generally more appreciated if we had more opportunities to sit in front of a computer and did things ourselves with your assistance. Still I am satisfied with what has been done.
7. Nothing.
8. If we could have a longer time processing all this, specially the “technical one” – you know most of us are language teachers with no or little knowledge of these technologies that are now available in language teaching.
9. Good enough. Thanks for giving all of us each a computer.