Remote Services to Support Deaf Students

E. William Clymer
NTID/CAT
February 29, 2012
CSUN Conference

E. William Clymer, MBA
Associate Director
NTID Center on Access Technology
National Technical Institute for the Deaf
Rochester Institute of Technology
Rochester NY 14623

Links to Resources

http://www.rit.edu/ntid/cat/enrichment/resources
Remote Services to Support Deaf Students
E. William Clymer
NTID/CAT
February 29, 2012
CSUN Conference

Remote Services
• On demand delivery of specialized services for deaf and hard of hearing students at locations with technology infrastructure, but not experienced educators and/or support staff.
• Technology and infrastructure is ready to deliver consistent quality product via web-based videoconferencing systems.

Goals
• Provide a report and recommendations on the findings of two projects used to plan for a successful NSF Alliance grant to provide remote tutoring to deaf STEM students in mainstreamed postsecondary schools.
• Provide links to resources
• Discussion

Need to Increase Number of Deaf STEM Students - 3 NSF Grants
• Summit - Needs Analysis
  • Stakeholder focus groups and report
• Enrichment - Plan for Alliance
  • Baseline data on students
  • Lessons learned from support services and other alliances
  • Social networks, videoconferencing and learning management systems
• Alliance - Build a National Model for Remote Services
  • Continue development of systems, document and provide a national model

Summit
• "Summit to Create a Cyber-Community to Advance Deaf and Hard-of-Hearing Individuals in STEM (DHH Cyber-Community)"
  • NSF Award # OCI-0749253
  • 09/1/2007 - 08/31/2010
  • http://www.rit.edu/ntid/cat/summit
• The goal of the Summit was to conduct a conference with 50 leaders in the field of support service provision for postsecondary deaf students in STEM programs
• The primary outcome was to report on the current state of online remote interpreting and captioning, and to identify the benefits and challenges associated with creating a multimedia
Remote Services to Support Deaf Students
Bill Clymer, NTID

Summit - Strategy
- Each group presents benefits & challenges associated with cyberinfrastructure
- In groups, develop recommendations
- Review by entire summit
- Final report

Summit - Report
Key Recommendations
- Original focus on remote captioning & interpreting
- Group, especially students, expanded scope to include a social network and community
- Need to bring sense of community and specialists to STEM students

Summit - Report Format

Summit - Recommendations
Faculty - Staff
- Preference vs. performance
- Elements of a successful business model
- Determining best practices
- Improving educational experience for deaf students
- Need to adjust teaching style

Empower Students
- Develop social networking opportunities
- Focus on STEM vocabulary and discourse
- Shared access to deaf access to deaf-friendly STEM instructors across universities

Summit - Key Principles
- Reduce student isolation on mainstreamed campuses
- Improve the quality of STEM interpreting & captioning by providing remote captioning & interpreting
- Provide instructional support from individuals knowledgeable with deafness

Enrichment
- "Enrichment: Testing the Concept of a Virtual Alliance for Deaf and Hard of Hearing STEM Students at the Postsecondary Level"
- NSF Award # DGE-0927586
- 09/1/2009 - 02/28/2011 (one year extension)
- http://www.rit.edu/ntid/cat/enrichment
- The goal was investigate the creation of a virtual support network for deaf/hard-of-hearing college students around the country enrolled in science, technology, engineering, and mathematics (STEM) programs
- The primary outcome was a successful NSF Alliance Proposal!
Remote Services to Support Deaf Students
Bill Clymer, NTID

2/9/12

Enrichment - Baseline Data
- Students in Transition: Demographics with an Emphasis on STEM Education (2010, 49 pages) by Gerald Walter
- Demographic data on deaf students in the US
  - How many, grade levels, attending college, etc.

Enrichment - Baseline
- College Students
  - 167,000 deaf or hard of hearing college students in the US (page 18)
  - 17% Deaf/HH in STEM majors
- At all institutions, the following support services offered (page 17)
  - Sign Language Interpreting - 45%
  - Adaptive Technology - 22%
  - Notetaker - 69%
  - Tutor - 77%

Enrichment - Focus Groups with PEPNet Outreach Staff 2007
Dr. Water
- Funding
- Student choice
- Online chat with other STEM students
- Universal design
- Mentoring important
- All deaf and HH community

Dr. Foster
- Materials accessible for HH and oral deaf
- Support of internships and practicum students
- Accessible media
- Instructor attitudes
- New teaching strategies

Enrichment - Elements of Successful Support
Elements of Successful Support and Access Services for STEM Students Who are Deaf and Hard of Hearing (2011, 11 pages) by Peter Lalley
- NTID Model - Roles of faculty
  - Tutoring
  - Address individual learning needs
- Advising-Mentoring
- Communication ease, understanding deaf culture, academic credential, enhanced by instructional experience
- Liaison
- Advocate for student within university, aware of developments, assist with transitions

Enrichment - Elements of Successful Support
- Organizational Support Departments
  - Based on disciplines and housed in college
  - Instructional faculty means credibility
  - Location leads to interaction and acceptance into social networking of departments; important during first 2 years
- Access Services
  - Interpreting
  - Voice to text (C-Print)
  - Notetaking

Enrichment - Elements of Successful Alliances
Features of Successful NSF Alliances and Models of Virtual Learning Communities: A Framework for Developing a Virtual Academic Social Network for Supporting Deaf and Hard of Hearing Students in STEM Education (2017, 10 pages) by Peter Lalley
- 4 NSF Alliances
  - MIND Alliance for Minority Students with Disabilities in Science, Technology, Engineering and Mathematics in NY & LA
  - AccessSTEM: The Northwest Alliance for Students with Disabilities in Science Technology, Engineering and Mathematics – Phase 2 – WA
Remote Services to Support Deaf Students
Bill Clymer, NTID
2/9/12

Enrichment - Elements of Successful Alliances

- 4 NSF Alliances
- Collaborative Research: Increasing Achievement and Transition Outcome in STEM Professions of Postsecondary Students with Disabilities; STEM Degrees and Careers for Ohioans with Disabilities. In OH
- EAST Alliance for Students with Disabilities in STEM - Phase 2. In ME

Enrichment - Elements of Successful Alliances

- Existing Alliance Goals
  - Increase involvement of HS students to transition them to STEM majors in postsecondary education
  - Increase retention and graduation rates
  - Increase entry into graduate school and STEM careers

- Differences with NTID Proposal
  - Deaf and HH students only
  - National model, not regional
  - Based upon cyberinfrastructure

Enrichment - Social Network

- Venue for exchange among interested parties 24/7
- Array of services - online and remote services
- Clearinghouse of information - instructional, career and research results
- Dictionaries for students, interpreters & actionists
- Synchronous and asynchronous communication; audio-video and text.

Enrichment - Video Conferencing

- NTID Virtual Academic Community Organizational Structure

Enrichment - Social Network

- NTID Virtual Alliance - Prototype Main Screen

Enrichment - Social Network

- NTID Virtual Alliance - Prototype Discussion Forums
Remote Services to Support Deaf Students
Bill Clymer, NTID

2/9/12

Enrichment – Social Network
- NTID Virtual Alliance - Google+ Main Screen

Enrichment – Social Network
- NTID Virtual Alliance - Google+ VAC Circle

Enrichment – Video Conferencing
- Required features
  - Platform interoperability - desktop, mobile, telepresence
  - Synchronous communication
  - Acceptable video quality
  - Instant messaging
  - Documentation
  - Document share
  - Document transfer
  - Shared whiteboard
  - Screen share
  - Captioning and interpreting capabilities

Enrichment – Video Conferencing
- NTID Virtual Academic Community Elements

Enrichment – Video Conferencing
- Fuze Meeting

Enrichment – Video Conferencing
- Google+ Hangouts with extras
Remote Services to Support Deaf Students
Bill Clymer, NTID

Alliance - Deaf & HH VAC

- "The Deaf and Hard of Hearing Virtual Academic Community Deaf STEM Community Alliance"
- NSF Award # HRD-1127955
- 09/15/2011 - 08/31/2014
- http://www.dhhvac.org

- NTID/RIT, Camden County College, and Cornell University are constructing an on-line community to support the learning needs of students who are deaf and hard-of-hearing in the areas of science, technology, engineering, and mathematics (STEM).

Resources Online
http://www.rit.edu/ntid/cat/enrichment/resources