Challenges – What do we know about the use of technology, cautions and research?

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Goals

- Identify those technologies that hold the greatest potential to enhance the learning, language, literacy and academic performance of students who are deaf/hard of hearing (d/hh).
- Design and implement a sustainable system of technology supports for teaching and learning for the field of Deaf Education.
- Insure that current and future teachers of the deaf are proficient in the use of technologies to enhance teaching and learning.

Knowledge Base – Impact of Technology

- Heafner, T. (2008).
  - p. 6 – "Students engaged working on the project with technology because...**technology made their work easier and more fun**."
  - p. 7 – **technology helped students find more information and to better understand the class material**, as a result, they became more confident in their ability to use technology
  - p. 8 – "…**computers make learning more relevant, meaningful, and enjoyable; consequently, academic frustrations declines**. Students experience a greater enjoyment from learning content because they are confident in their ability to accomplish the task with using technology." (ref)
  - p. 8 – "…**technology enables students to accomplish more than they can without technology**."

... Impact of Technology

- Cradler, J. (2002).
  - p. 47 – **research…impact of technology…greatest when done in support of curriculum standards**
  - p. 47 – need to "rethink" how we teach, build curriculum and evaluate students…in light of the possibilities enabled via technology integration
  - p. 47 – research…Cradler & Cradler (1999)…impact of students' using multimedia **technologies/projects…increase in student knowledge re.**
    - **research skills**
    - **ability to apply learning to real world problems**
    - **organizational skills**
    - **interest in content**
  - p. 48 – **higher order thinking dev**. via the use of technology within problem solving situations
  - p. 48 – ref. to a number of studies concerning the positive impact that technology can have upon student performance
  - p. 49 – **pivotal role that technology can plan in preparing students to join the work force**

... Impact of Technology

- Neumann, U., & Kyriakakis, C. (2002).
  - p. 2 – belief/position …that broadband Internet technologies will drive K-12 education
  - **classroom boundaries will cease to exist**
  - technology…essentially viewed as a way to reach a larger number if individuals, sharing with them essentially the same information, vs. as enabling a whole new learning paradigm for both students AND teachers
  - p. 2 – technology holds the potential of a "…dramatic reformation of our teaching methods themselves."

Knowledge Base – Desired Student Learning Characteristics

- Partnership for 21st Century Skills (2003)
  - The goal of school is not more school, but life after school.
  - Within the 21st Century, that life requires individuals to become increasingly effective and efficient problem solvers, i.e., individuals who:
    - are flexible and adapt well to change;
    - can handle multiple responsibilities;
    - consistently make good decisions, both independently and in collaboration with others; and
    - **are life long learners that can collect, synthesize, use and share increasingly complex technologies, concepts and data to address "real" problems within their homes, work and communities.**

...Desired Student Learning Characteristics

- Cerf, V., & Schutz, C. (2001).
  - p. 3 - …emerging role of the student…"each individual student needed to be free to explore the information and experimentation space independently or in small collaborative groups."
- Hasselbring, T.S., Smith., L., Rakestraw, J., & Campbell, M. (2000).
  - p. 2 – **"Without opportunity to access and use digital technologies, many of America's children will be confronted with insurmountable barriers that could regulate them to the ranks of the technological underclass with declining opportunities for employment."**

Knowledge Base – Desired Teacher Characteristics

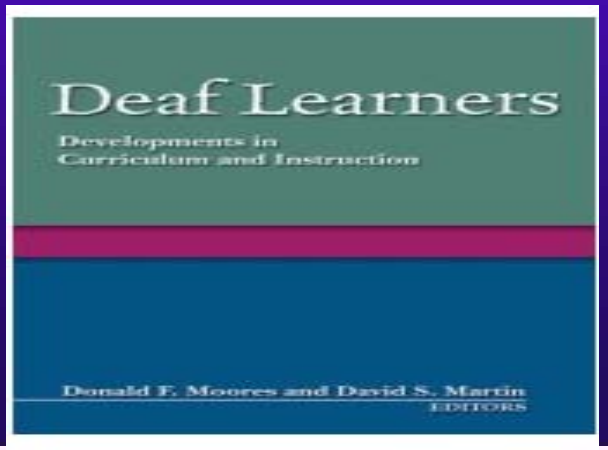
- Garry, A., & Graham, P. (2004).
  - p. 1 – **"…the teacher is the most important piece of equipment…"**
- Partnership for 21st Century Skills (2003).
  - p. 12 – "…teachers can create a 21 century context for learning by…"
    - **making content relevant to student lives**
    - **bring the world into the classroom**
    - **take students out into the world**
    - **create opt. for students to interact with others in authentic learning experiences**

...Desired Teacher Characteristics

- Donovan, M.S., Bransford, J.D., & Pellegrino, J.W. (Eds.) (1999).
  - p. 10 – **student learning is enhanced when** they understand why, when and how the targeted information is relevant + **when the learning occurs within problem solving activities**
- Cerf, V., & Schutz, C. (2001).
  - p. 2-3 – emerging role of the teacher…"facilitator of information and critical thinking." no longer as the "…keeper and provider of all knowledge, but that of a guide."
- Bransford, J.D., Brown, A.L., & Cocking, R.R. (Eds.), 1999
  - During a typical school year, students spend **14% of their time in school**, 53% of their time at home/in the community; and 33% of their time sleeping = effective teachers link learning with living.

Suggested Reference Source

- Johnson, H., & Mertens, D. (2006). New strategies to address old problems: Web based technologies, resources & applications to enhance K-20 deaf education. In D. Moores & D. Martin (Eds.), Deaf learners: New developments in curriculum and instruction. Washington, DC: Gallaudet University Press.

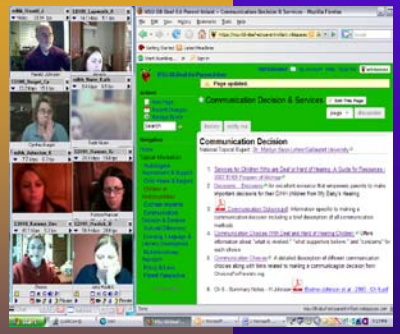


Suggested Research Source

- Journal of Deaf Studies and Deaf Education Author's Corner
  - **http://jdsde-author-corner.wiki.educ.msu.edu/**

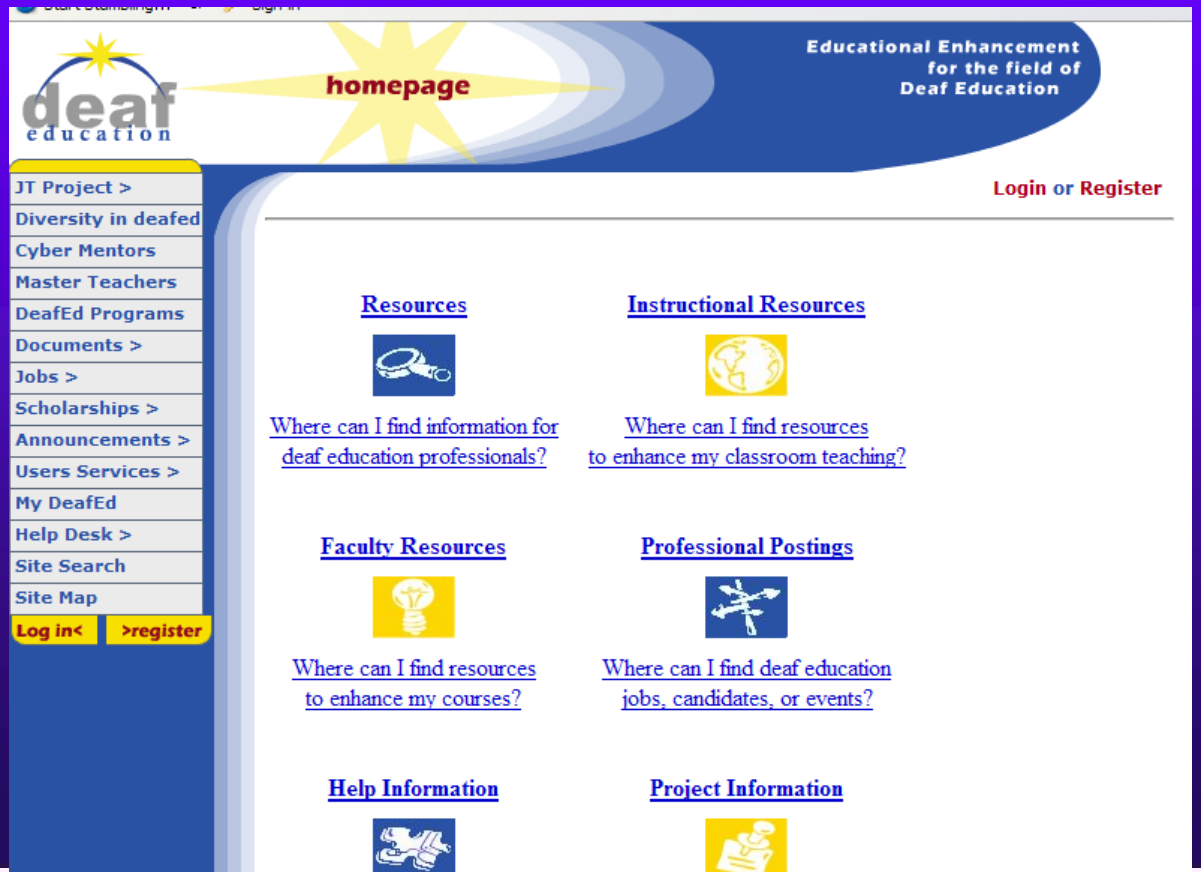
Suggested Strategies Resource

- State model for educational enhancement
  - http://www.deafed.net/PublishedDocs/Teachers_as_Critical_Resources_for_Success_1.pdf



Suggested Instructional Resources

- Deaf Education Web Site
  - http://www.deafed.net/



Barriers to Success w/in Deaf Education

- Students...
  - ...the primary problem of students who are deaf/hard-of-hearing (d/hh) is not too little hearing, but **too much isolation** from peers, meaningful learning opportunities and high expectations for academic performance
- Teachers...
  - ...the primary problem of PK-12 deaf education professionals is not too little effort, but **too much difficulty in collaborating with peers**, in sharing effective instructional practices and accessing needed learning resources.
- Faculty...
  - ...the primary problem of deaf education teacher preparation is not too little innovation, but **too much theory** that is not sufficiently grounded in the day-to-day instructional realities of teachers of students who are d/hh.

Isolation – Collaboration - Application

Summary Questions

- What technologies or service solutions have you found to work in rural areas?
- What have been the benefits?
- What have been the challenges?
- How did you deal with those challenges?
- What recommendations do you have to prospective users of these technologies and services?

References

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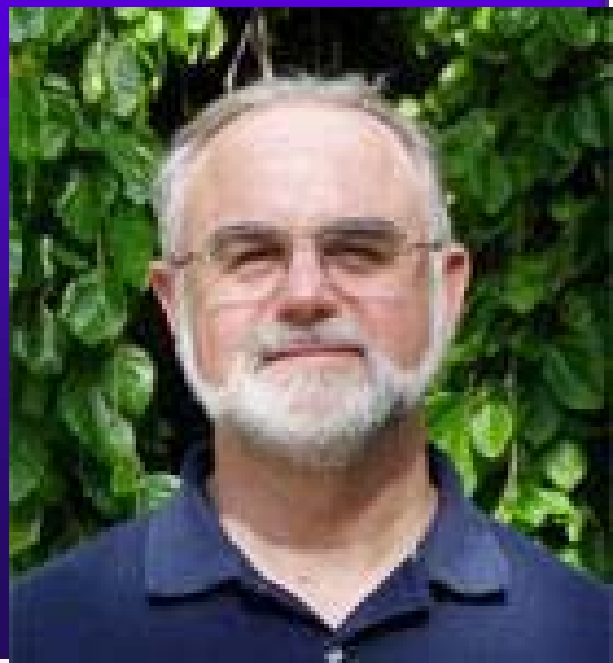
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