

How are Teachers for the Deaf and Hard of Hearing Using the Internet to Educate K-12 Deaf and Hard of Hearing Students?

June 25, 2001

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ABSTRACT

Today teachers are using the Internet to educate deaf and hard of hearing elementary (K-12) students in residential and mainstream schools. This symposium topic will provide a number of residential and mainstream school Universal Resource Locator (URL) addresses from around the world, discover what they have to offer, and determine if resources are significant to consider forming a community for specific needs. The goal is to identify the array of possibilities that can be developed when using the Internet (other than simply saving materials).

The research for this project began by collecting a list of the many residential and mainstream schools with sites on the web. Then, the information on their web sites (the school name, history, mission statement, course materials, how teachers are using the Internet with their students) was analyzed to determine if the school uses any new strategies for student education.

Since a variety of information was discovered, this presentation will present and interpret the results. It will also suggest how educators should use the resources on-line as a main tool to deliver information that would be appropriate for remote learners, secondary tutoring, and research among K-12 students.

How are Teachers for the Deaf and Hard of Hearing Using the Internet to Educate K-12 Deaf and Hard of Hearing Students? The Starting Point

During the preparation for Project Access ¹ (“An American-Hungarian Strategy to bring Deaf Hungarians pupils into the age of Information Technology”), one of the assignments was to gather residential and mainstream school Universal Resource Locator (URL) addresses from around the world ². The main purpose was to show teachers for the deaf and hard of hearing from the Hungarian Association Schools for the Deaf how web pages are implemented, designed, and modeled ³. The outcome can be found at this address - <http://www.rit.edu/~624www/access/partners.html> – that shows how these schools implemented their own web sites.

¹ Project Access can be found at <http://www.rit.edu/~624www/access>

² Deaf school URLs can be found at: <http://www.rit.edu/~djlnet/deafschlist.htm>

³ Instruction Materials can be found at <http://www.rit.edu/~djlnet/proaccess.htm>

The research for this project began by collecting a list of the many residential and mainstream schools, independent of communication mode, from the USA and Internationally. The web layout, design, and usability were presented to the Hungarian teachers for the deaf and hard of hearing students because their ultimate goal was to develop usable web pages. I discovered an astonishing information integration problem with the web sites of deaf school (<http://www.rit.edu/~djlnet/deafschlist.htm>). As an instructor myself, I became interesting in discovering existing materials that we can share with other instructors via a database. However, I was unable to discover an existing database that gathers or collects information on how best to instruct deaf pupils depending on subject and by grade. This led to the following three questions:

1. What do schools for the deaf and hard of hearing offer on their web as an educational aspect?
2. Are the resources significant to consider forming a community for specific needs?
3. The goal is to identify the arrays of possibilities that can be developed when using the Internet. What would the results be?

What Do Schools for the Deaf and Hard of Hearing Offer on their Web Sites as an Educational Aspect?

After analyzing the deaf schools' URL addresses, it was discovered that the information about the school, archives, resources on deaf culture and deaf issues, and type of communication media were normally identified on residential and mainstream web sites of deaf and hard of hearing schools in the United States of America (USA).

The information about the school generally introduced the school, its mission statement, history about the school, electronic library, employment opportunities, and extracurricular activities such as sports and parent/student programs. The archives included information about their alumnus, science projects, student news such as sport events and outcomes, field trips, holiday parties and dances. The resources on deaf related issues such as information about Associations for the Deaf and deaf clubs, Deaf Life, Deaf News, Silent News, and ADA. The communication media included how to contact the school via voice, TDD, faxes, mail and email.

On the other side of the spectrum, the International residential and mainstream deaf and hard of hearing schools indicated differences compared to USA residential and mainstream schools for the deaf and hard of hearing. Under the same category that was reviewed with the USA residential schools, the information about the school was more a reflection on an individual or an organization as a role model. For example, the Philippine School for the Deaf had Heather Whitestone on the front-page of their web site. This site no longer continues. The Bangladesh School for the Deaf and Blind Boy's Home had the Salvation Army sponsoring the site. "The Pattaya Redemptorist School for Deaf Children was built under a grant of the Jules and Paul-Emile Leger Foundation of Canada" (pat).

The archives and the resources on deaf related issues were not expressed much on international web sites; although, SMPKP had interesting data and resources about USA and Malaysian deaf related issues. The communication media for these international deaf and hard of hearing schools were primary contacts by snail mail and phone. Many of them did not have fax or emails.

There was an interesting association between the schools for the deaf and hard of hearing in the different geographical parts of the world compared to the web sites for the USA schools for the deaf and hard of hearing. The English and European schools for the deaf web sites were associated with their history (school and culture) and with charity. They recognized the need of deaf services, and had good associations with the deaf and deaf clubs; but they did not know where to start academically. The Pacific regions such as the Philippines, Korea, Thailand, and the like were basically crying for help because they had no money to support programs for the deaf. They could not provide services for all deaf with secondary handicapping disabilities. Their web sites indicated that they were forcing deaf individuals to learn how to listen/hear, a trend we might find to be astonishing. The schools for the deaf and hard of hearing in Canada and England expressed their web sites in a very similar way to the approaches used by schools for the deaf and hard of hearing in the USA.

I discovered one trend that schools' web sites did not exploit or illustrate; that was educational information and integration exchange. For clarification, this means that information like course materials, lecture notes, quizzes, exams, and how teachers in residential and mainstream schools used the Internet to educate their students by grade and/or by subject was analyzed to determine if the school uses any new strategies for student education strictly on the Internet.

Are the Resources Significant to Consider Forming a Community for Specific Needs?

At this point in the research, the goal was to try to discover if there were any schools for the deaf and hard of hearing that had a site used to support exchanging ideas about course lectures, materials, quizzes, exams, and projects. I was unable to discover a convenient information sharing web site at any of the presented URL addresses for teachers for the deaf and hard of hearing.

Several schools for the deaf and hard of hearing demonstrated a well design information expressing web sites. They are Rochester School for the Deaf, Lexington School for the Deaf, Minnesota State Academy for the Deaf, Budapest School for the Deaf, and Vac School for the Deaf just to name the few. They have a lot of information about their schools; however, they came up short on being able to exchange data effectively. The goal for a web site is to save materials at one location, write and post the materials one time, and allow many readers to read the document. This is a point well made in the history of web pages; although, there is definitely a better use of the web other than simply saving the materials at one location. Can we integrate a system that will allow a teacher for the deaf and hard of hearing from Minnesota State Academy for the Deaf to share course materials with another teacher at the Rochester School for the Deaf or Vac School for the Deaf in Hungary?

The Goal is to identify the Arrays of Possibilities that can be Developed When Using the Internet. What would it be?

If we can find the resources and funds or volunteers to create a system that will allow a teacher for the deaf and hard of hearing from many schools to exchange data, this is definitely one area you should exploit.

The goal is to identify the arrays of possible solutions that will lead to forming a better integration information-sharing site for teachers for the deaf and hard of hearing. The potential solutions are:

1. To develop an educational integration information sharing site. The necessary components are:
 - a. Data warehousing – “A collection of data designed to support management decision making” (web1).
 - b. Database – “A collection of information organized in such a way that a computer program can quickly select desired pieces of data. You can think of a database as an electronic filing system” (web2). You can feed or retrieve data to/from the database. An example of a database application is Microsoft Access or mySQL from <http://www.mysql.com> .
 - c. Web server – “A computer that delivers (*serves up*) Web pages” (web3). You can discover many freeware / shareware web servers at <http://serverwatch.internet.com/webservers.html> .
 - d. Webmaster – “An individual who manages a Web site” (web4).

An integrated information exchange site can be developed with these components. An example of an existing similar site is Blue web ‘N’⁴. Blue web ‘N’ is a library of learning sites formed in a matrix style as a collection of subjects and tutorials, activities, lesson plans, and resources. This is something that teachers for the deaf and hard of hearing should consider forming.

2. Educational Information Integrated Sites

- a. Blue web ‘N’, <http://www.kn.pacbell.com/wired/bluewebn>
- b. Busy Teachers Web Site, <http://www.ceismc.gatech.edu/busyt/homepg.htm>

An interested teacher is encouraged to contact the creator of either site and add on an “education for the deaf” component since it is not necessary to re-invent the wheel – unless you want to get the experience in managing a site.

3. Existing web resources that promote educational learning on the web that teachers can use to expand instruction beyond their classrooms are:
 - a. Fun brain, <http://www.funbrain.com>
 - b. K-8 Education Resource Place, <http://www.eduplace.com>
4. Existing news groups that promotes educational learning on the Internet that teachers can use are:
 - a. Deja news, http://groups.google.com/googlegroups/deja_announcement.html
 - i. Alt.education

⁴ Blueweb’n can be found at <http://www.kn.pacbell.com/wired/bluewebn>
 A Poster Session at the Instructional Technology
 And Education of the Deaf Symposium
 National Technical Institute for the Deaf
 Rochester, NY June 2001
<http://www.rit.edu/~techsym>

- ii. Alt.k12
 - b. Yahoo Groups, http://dir.groups.yahoo.com/dir/Schools_Education/K-12
 - i. K-12/course
 - ii. By subject
 - c. List of Usenet news groups in Education of K-12, <http://dir.yahoo.com/Education/K-12/Usenet>
 - d. Yahooigans
 - i. General site, <http://www.yahooligans.com>
 - ii. Teacher's Guide, <http://www.yahooligans.com/tg>
5. Sites for self-interested learners (students or teachers)
- a. How? <http://www.ehow.com>
 - b. How stuff works? <http://www.howstuffworks.com>

Conclusion

Many web sites from the schools for the deaf and hard of hearing worldwide do provide information about their school, about events that are happening in their school, and how to reach to the school. The bottom line to fully exploit an educational tool on the Internet is not what is posted for people to read, it is more of what is available for us to utilize. What many schools did not have was the educational information integrated exchange concept (matrix) that is crucial for three primary reasons. The reasons are to educate students on the Internet, to allow teachers to share what works and what does not work to better educate the deaf and hard of hearing learners, and not to duplicate materials. It is important to take advantage of materials that have been tested. This paper illustrated what resources are available and what needs to be considered. This matrix does not exist on the Internet; although, there are enough resources to form a community and I truly hope someone will exploit an untouched resource for deaf and hard of hearing learners.

Citation

- (pat) The Pattaya School for the Deaf.
<http://www.cyberenet.net/~rsmall/deaf.htm#desc>
- (web1) Webopedia. "Datawarehousing."
http://webopedia.internet.com/TERM/d/data_warehouse.html
- (web2) Webopedia. "Database."
<http://webopedia.internet.com/TERM/d/database.html>
- (web3) Webopedia. "Web server."
http://webopedia.internet.com/TERM/W/Web_server.html

(web4) Webopedia. "Webmaster."
<http://webopedia.internet.com/TERM/W/Webmaster.html>

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Technology Symposium
National Technical Institute for the Deaf
June 25, 26 2001
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Entire show takes
3 min 58 sec

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Disclaimer

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- ✦ The paper provides a perspective on how information exchange's current status is; therefore, the author:
 - ◆ Is trying to present a venue where educators for K-12 can take an advantage of.
 - ◆ Is trying to gather a reasonable community of educators and perhaps to start a new strand that was not addressed before.
- ✦ The PowerPoint Presentation provides only a superficial summary of the documentary.

Entire show takes
3 min 58 sec

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The Questions

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- ✦ Question 1: What do schools for the D / HH offer on their web sites as an educational aspect?
- ✦ Question 2: Are the resources significant to consider forming a community for specific needs?
- ✦ Question 3: The goal is to identify the arrays of possibilities that can be developed when using the Internet. What would the results be?

Entire show takes
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Question 1:
What did I discovered?

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- ✦ What do schools for the D / HH offer on their web sites as an educational aspect?
- ✦ The web sites primary included in the category of:
 - ◆ Information
 - ◆ Archives
 - ◆ Resources on Deaf culture and Issues
 - ◆ Communication Media

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Information_(Q1)

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- ✦ Mission Statement, Introduction, History
- ✦ Electronic Library
- ✦ Employment Opportunities
- ✦ Extracurricular Activities
 - ◆ Creating web sites by students
 - ◆ Sports
 - ◆ Parent and Student programs

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Archives_(Q1)

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- ✦ Alumnus
- ✦ Science Projects
- ✦ Student News
 - ◆ Sports
 - ◆ Field Trips
 - ◆ Holiday Parties and Dances

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Resources on Deaf Culture and Issues (Q1)

- ✘ Association Clubs for the Deaf
- ✘ Deaf Life, Deaf News, Silent News
- ✘ ADA
- ✘ Sign Language
 - ◆ Signs
 - ◆ Spelling

Entire show takes
3 min 58 sec

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Communication Media (Q1)

- ✘ Publish web pages
- ✘ Via contact
 - ◆ Email
 - ◆ Voice / TDD number(s)
 - ◆ FAX
 - ◆ Mail

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What did I discovered in International Deaf Schools' Web Sites? (Q1)

- ✘ Same as previous approached by state and national residential deaf schools, what did I discovered by the International deaf schools?
- ✘ The web sites primary included category of:
 - ◆ Information
 - ◆ Archives
 - ◆ Resources on Deaf culture and Issues
 - ◆ Communication Media

Entire show takes
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Information (International) (Q1)

- ✘ Philippine School for the Deaf
 - Heather Whitestone, site discontinued
- ✘ Bangladesh School for the Deaf
 - Salvation Army
 - Colonized by America, Canada, England
- ✘ SMPKP (Malaysia) School for the Deaf
 - own links of Deaf Culture and Issues with respect to Malaysia and USA.
- ✘ Pattaya Redemptorist School for the Deaf
 - Built under grant of the Jules and Paul-Emile Leger Foundation of Canada.

Entire show takes
3 min 58 sec

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The rest of it.. (International) (Q1)

- ✘ Archives
 - Not much existing pages.
- ✘ Resources on Deaf Culture and Issues
 - SMPKP has links to deaf culture and issues.
- ✘ Communication Mode
 - Many did not have address, phone, or email.

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Question 2:

- ✘ Are the resources significant to consider forming a community for specific needs?

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Answer(s) to Question 2

- ❏ I was unable to discover a convenient information sharing web site at any of the presented URL addresses for Teachers for the deaf and hard of hearing (D/HH) based on some common frustrations of searching on the web. The questions or desires such as:
 - How shall I teach this topic to D/HH students? Is there a better way?
 - I want to exchange a 5th grade math exam to D/HH using a well tested Exam from "Freetown USA" School for the Deaf.
 - I do not want to duplicate the same materials, again. I know they exists somewhere.

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3 min 58 sec

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Answer(s) to Question 2

- ❏ Many schools provided great information but were not exploited to its' maximum by exchanging data effectively.

Entire show takes
3 min 58 sec

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Answer(s) to Question 2

- ❏ Can we create an effective information integration exchanging system?
 - Answer : YES!
 - This leads to the next question!

Entire show takes
3 min 58 sec

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Question 3:

- ❏ The goal is to identify the arrays of possibilities that can be developed when using the Internet.
 - What would the results and suggests be?

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Answers to Question 3

- ❏ To develop an Educational Information Integration Exchange (EIIE) site.
 1. What are the necessary components?
 2. Are there any existing models we can borrow from?
 3. Are there any resources we can use to educate students regardless of their disabilities?
 4. Are there any resources that can assistance Teachers for the Deaf and Hard of Hearing in preparations at this magnitude such as discussion groups?

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3 min 58 sec

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Solution: Components

- ❏ To develop an educational integration information exchange (EIIE) site, the essential components are:
 - (other than connectivity to the internet and web pages)
 - ♦ Data warehousing
 - ♦ Database
 - ♦ Web Server
 - ♦ Webmaster

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Solution: Existing Model (see the board →)

✦ An example we can borrow:

- ✦ Blue Web'N:
<http://www.kn.pacbell.com/wired/bluewebn>
- ✦ Busy Teacher'w Web:
<http://www.ceismc.gatech.edu/busyt/homepg.htm>

- ✦ Not necessary to re-create the wheel, we can participate and create special education section.

Entire show takes
3 min 58 sec

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Solution: Resources

- ✦ Great Web Resources and Site for education on the Internet.

- ✦ Fun Brain: <http://www.funbrain.com>
 - GREAT SITE – Try the baseball game!

- ✦ K-8 Education Resource Center:
<http://eduplace.com>

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Solution: Resources for Educators and Learners.

✦ Discussion Groups

- ✦ Deja News www.dejanews.com
- ✦ Yahoo! Groups
 - Yahoooligans
- ✦ Self Interested Learning Site
 - How? <http://www.ehow.com>
 - How stuff works? <http://www.howstuffworks.com>

Entire show takes
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Conclusion

- ✦ Many Schools have the necessary basic models of web presentations.
- ✦ There are enough resources and technology to form a community.
- ✦ The goal is to capitalized the information integration system via database and/or matrix.

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3 min 58 sec

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PLEASE!

- ✦ Grab a document
- ✦ Read the document
- ✦ Provide your opinion / feedback via email to djlnet@rit.edu in the near future or drop your form at the Technology Symposium table!
- ✦ Thank you!

Entire show takes
3 min 58 sec

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