Administrative Support Technology (AST) Sign Vocabulary CD-ROM Project: A Self-Instructional Sign Language Resource for Faculty, Staff, & Students

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Content Experts:
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Karen Conner
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Doreothy Cerniglia
Jules Chivaroli
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Frank Caccamise, Mary Lou Basile, Vince Ortolani, Camille Aidala, Cea Dorn, Don Feigel

Abstract: The goal of this project was to develop an Administrative Support Technology (AST) sign language self-instructional material that provides instructors, students, and interpreters random access to signs used by skilled signers knowledgeable about AST content. The principles and process followed to ensure collection and recording of AST signs that reflect current usage by skilled signers knowledgeable about AST terminology is outlined. In addition, features of the AST CD-ROM produced and important considerations from the perspective of both the project sign videotaping and editing director and the project programmer are provided. Results of an evaluation to help assist planning for future development of similar materials are also provided.

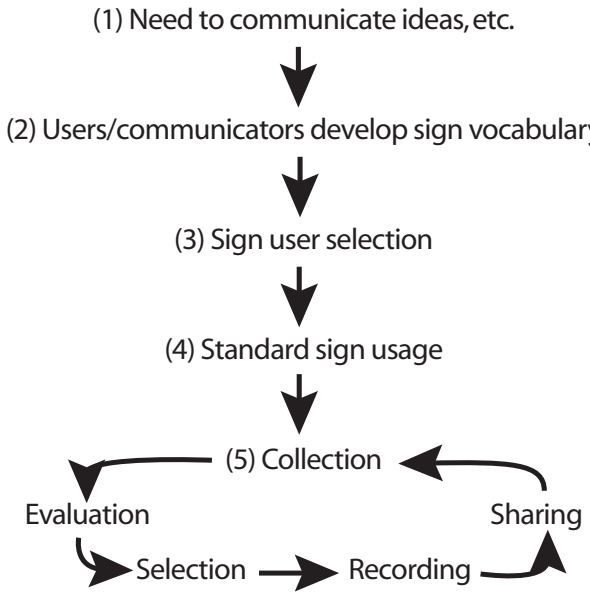
Project Goal

To develop an AST sign language self-instructional material that provides instructors, students, and interpreters random access to signs used by skilled signers knowledgeable about ASL content.

Project Principles

1. Sign languages, like spoken languages, follow a natural process for developing vocabulary

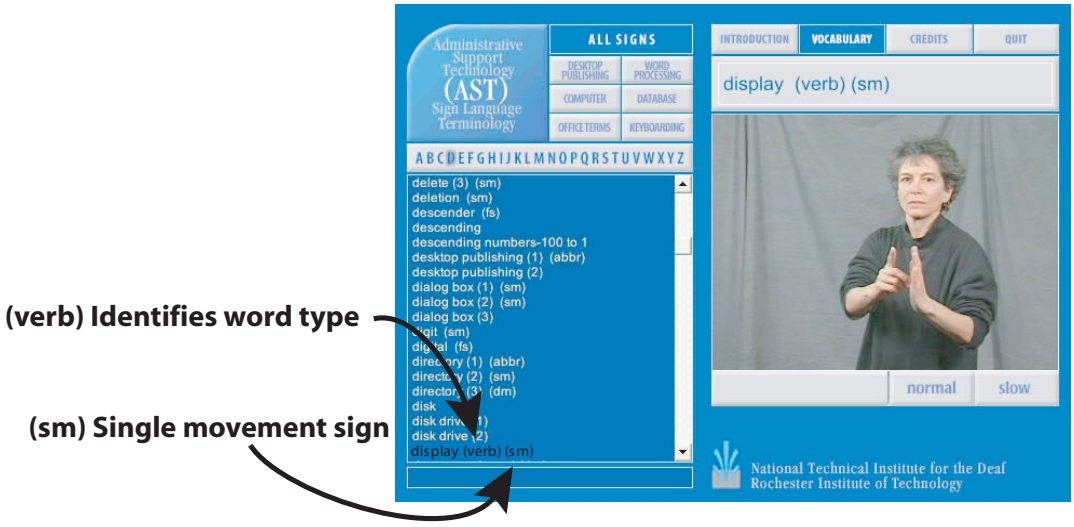
2. Sign selection and use should be used on the natural sign vocabulary development process (NSVDP)

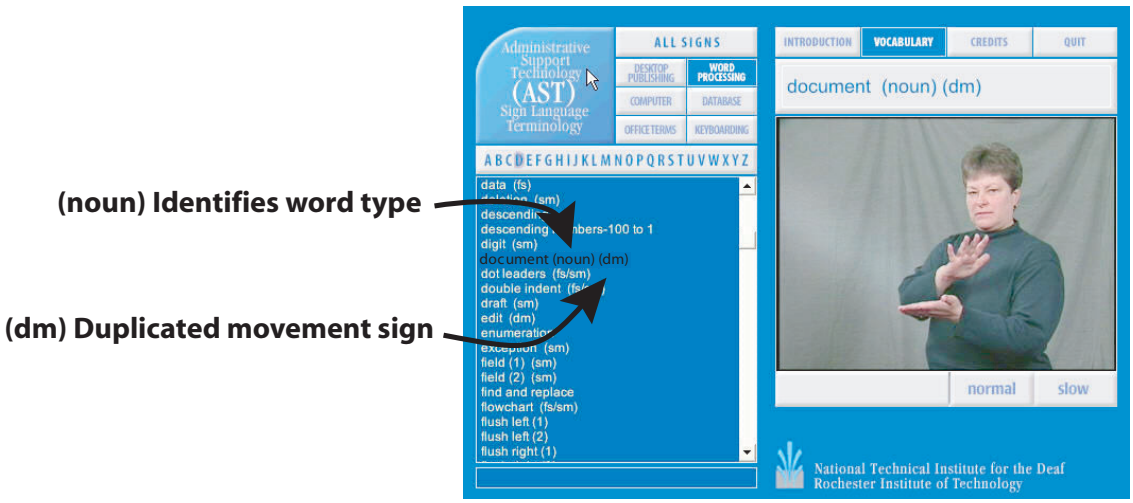


Some Features of AST CD-ROM

1. The following print information, as appropriate, included in parenthesis following each term:
   A. Word type (noun or verb) in parenthesis to clarify meaning; e.g., "drive (noun)"
   B. Keywords to help clarify meaning sometimes appear in row at bottom of screen
   C. "(abbr)" if term signed as an abbreviation; e.g., "central processing unit (abbr)"
   D. "(fs)" if term is fingerspelled; e.g., "update (fs)"
   E. "(sm)" if the sign for a term has single production of movement; for example; "click (sm)"
   F. "(dm)" if the sign for a term has movement produced two or more times; e.g., "cursor (dm)"
   G. Combinations of above sometimes occurs; e.g., "word spacing (sm/dm)" means first word has single and second word (spacing) has duplicated movement

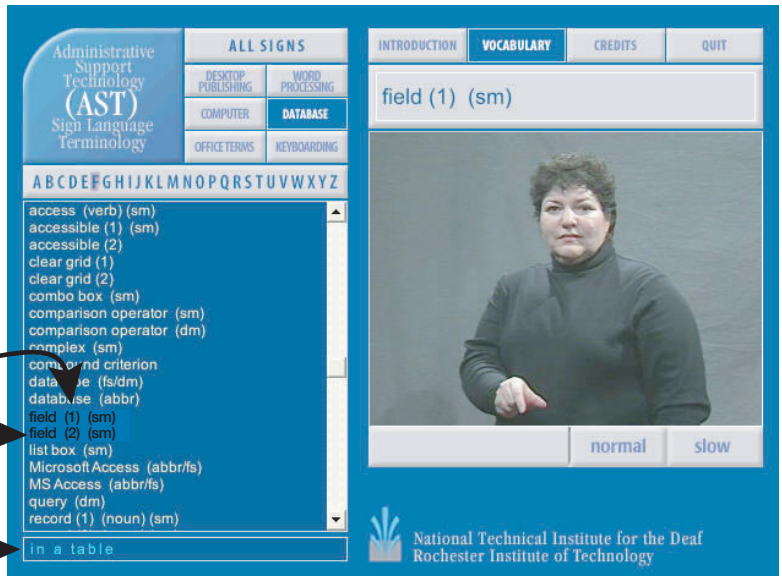
2. Sign and fingerspelling production may be viewed at normal rate and slow motion





Some Features of AST CD-ROM

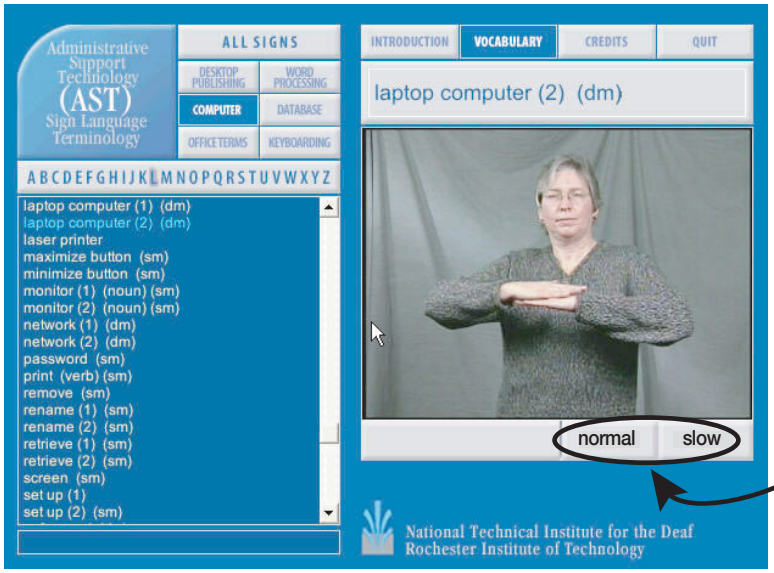
(Continued)



(1) First of two signs

(2) Second of two signs

Clarifies meaning



May select normal rate or slow motion

Important Considerations from Perspective of Sign Videotaping and Editing Director

Videotape Production Techniques/Steps

1. AST signs videotaped (VT) on SONY 3-chip video cameras, switched live onto a DVCAM videotape format.

2. Two cameras positioned at 45-degree angles to right and left of talents, allowed us to choose best angle for taping and viewing each sign.

3. Key lights positioned high above each camera pointing down on talent. Backlights setup high above talent to provide separation from neutral gray background. Talent dressed in dark clothing, for continuity and shadow control.

4. Talent informed of importance of "holding" sign start and end positions. May be uncomfortable for talent to perform, but a necessity for sign to be edited correctly and recognized in its entirety.

Important Considerations from Perspective of Sign Videotaping and Editing Director

(Continued)

Videotape Post-Production Techniques/Steps

1. VT signs digitized into AVID non-linear editing platform, a Mac-based system that is an extremely powerful editing tool and perfect for this style of production. Although digitized media inside the AVID compressed, the images reproduced actually look better than images on original VT. This was done through AVID's powerful analog to digital converters. Image quality is improved and easily accessible for viewing.

2. After media is digitized, it can be edited. It is important that each file (sign) be labeled correctly, and located in its proper location on the computer. Working with over 300 files, it is easy to overlook a missing file! These individual files should have the same label from digitized stage to final stage of programming.

3. Each file's start and end positions is edited, determining how each file looks on final product.

4. After sign-content expert approval process is completed on each file, they are compressed and QuickTime movies created using mpeg-1 compression. These files are saved at 320x240 screen resolution, at a data rate of 600 KB/sec. This high data rate sustains image quality, with each file approximately 6 MB in size.

5. CDs produced with compressed mpeg-1 files and sent to programmer.

Important Considerations from Programmer's Perspective

1. At beginning of project, sign-content experts, instructional developer/programmer, videographer, and graphic artist(s) meet to analyze and resolve project interface elements, content,multimedia, interactivity, and navigation required.

2. Sign-content experts and programmer organize project data. We need Excel to create a sign data spreadsheet (SS). SS rows correspond to each program sign. Row data consists of fields corresponding to terms, keywords, word type, fingerspelling and movement information, number of signs for each term, technical category, and corresponding sign video file name.

3. Videographer and artist complete their development phases and deliver media files (sign video files and graphic components) to programmer. Sign video files require conventions employed to ensure file names correspond to SS sign video file field information.

4. Project assembled by combining SS information, graphic components, and sign videos. Programming phase completed to provide required functionality and interactivity. Issues addressed and resolved to provide compatibility for cross-platform (Macintosh™ and Windows™) use. Program and associated files then combined and burned to CD.

5. Software (SW) selected for developing the CD-ROM interface depends on features needed. Given AST CD features, Macromedia Director™ SW selected. Also required were QuickTime™ SW for video files playback and Adaptec Toast™ for CD burning.

6. Hardware: Macintosh development platform was utilized (Macromedia Director development suite also available for Windows platforms). Development computer requirements included ability to run Macromedia Director, to playback video files with monitor resolution of at least thousands of colors, and the ability to burn CDs.

7. AST CD may be played on Mac and Windows platforms. Playback is via CD; does not require any installation or downloading to user's computer.

8. Macintosh requirements: PowerPC computer, System 8.1 or later, 64 MB + free RAM, at least 640x480 display resolution at thousands of colors, QuickTime 4 or later, CD-ROM drive.

9. PC requirements: Pentium Class computer, Windows 95/98/2000/NT/XP, 64 MB + free RAM, SVGA display and graphics card, at least 640x480 display resolution at high color (16 bit), CD-ROM drive.

Administrative Support Technology (AST) Sign Vocabulary CD-ROM: Evaluation Form

Name (optional) _____ Date _____

Your ASL Skill Level

☐ Beginning ☐ Intermediate ☐ Advanced

Your Computer Skill Level

☐ Beginning ☐ Intermediate ☐ Advanced

Your AST Content Knowledge

☐ Beginning ☐ Intermediate ☐ Advanced

Your Status

☐ NTID Faculty ☐ NTID Student ☐ Other _____
☐ NTID Interpreter ☐ NTID/Other Staff

After you have viewed the signs, please complete the items below:

Content Categories Viewed:

☐ Computer ☐ Keyboarding
☐ Database ☐ Office Terms
☐ Desktop Publishing ☐ Word Processing

		Strongly Agree 5	4	3	2	Strongly Disagree 1
1.	It is easy to use this CD.	☐	☐	☐	☐	☐
2.	The instructions are clear.	☐	☐	☐	☐	☐
3.	It is easy to find the sign I wanted.	☐	☐	☐	☐	☐
4.	I will recognize the correct AST sign when I see it in the future.	☐	☐	☐	☐	☐
5.	I will be able to produce the correct AST sign in the future.	☐	☐	☐	☐	☐
6.	It also would be beneficial to see signs produced in sentences.	☐	☐	☐	☐	☐

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7. If you selected 1 or 2 for any of the above items, we would appreciate your reasons on the back of this form.
8. Please write any additional comments you may have on the back of this form.

Please return this form to Vince Ortolani, Business Career Department, RIT/NTID, 60-2780.
Thank you for completing this evaluation form.

Administrative Support Technology (AST) Sign Vocabulary CD-ROM Project: Evaluation Results

1. Evaluations completed by 14 NTID faculty: Level of their American Sign Language (ASL) skills, computer skills, and AST content knowledge are shown in Table 1 below.

Table 1. Skill Levels and Content Knowledge of 14 NTID Faculty Evaluators

	Beginning	Intermediate	Advanced
ASL Skill Level	–	8	6
Computer Skill Level	–	3	11
AST Content Knowledge	3	4	7

2. Ratings for AST CD-ROM evaluation form items #1-6 are shown in Table 2 below.

Table 2. NTID Faculty Ratings of AST CD-ROM Evaluation Form Items #1-6

AST-CD ROM Rating Items	5 Strongly Agree	4	3	2	1 Strongly Disagree
1. Ease of use	10	4	–	–	–
2. Clear instructions	8	4	1	–	–
3. Ease of finding signs	9	3	2	–	–
4. Recognizing sign	7	4	2	–	–
5. Producing sign	7	6	–	–	–
6. Signs in sentences	5	3	1	2	2

3. Among written comments to AST CD-ROM evaluation form items #6 and #7 that will be considered for future efforts include:

   a. Include a term in all technical categories for which it is appropriate, not just one category
   b. Change "All Signs" button to "All Terms"
   c. If, for one or more letters of the alphabet, there is no term, this should be stated when this/these letters are clicked on
   d. Have several potential CD-ROM users review introduction to ensure it is clearly written
   e. Since there is a slow motion option, ensure talents produce signs at a normal rate
   f. Have talents show more facial expression when appropriate

Readings with Abstracts

Caccamise, F. (1986). *Development and selection of signs for use in academic and career environments or How should I sign?* In D.H. Ashmore (Ed.), Proceedings of the Regional Conference on Postsecondary Education for Hearing-Impaired Persons (pp. 83-96). Knoxville, TN: University of Tennessee, College of Education.

Provides an explanation of (a) the Natural Sign (Vocabulary) Development Process (NSDP), (b) factors important to sign language vocabulary selection, and (c) f actors that influence the development and structure of all natural languages. Suggested guidelines for selection of signs from sign materials and a summary of approaches to sign development and/or selection used in seven sign material projects are provided. The importance of respect for "local/dialectical" sign variation is stressed.

Caccamise, F. (1989). *Artificial versus natural sign development: A response to Rasmus and Allen.* Sign Language Studies, 63, 127-143.

Addresses the issue of artificial versus natural sign vocabulary development, includes (a) support for the importance of fingerspelling both to sign language communication and the NSDP, (b) discussion of misuse of the term "conceptual" signs/signing, and (c) a list and explanation of linguistic (phonological and morphological) guidelines that may assist in the collection, evaluation, and recording of signs language vocabulary.

Oglia, D., Mitchell, M., & Caccamise, F. (1994). *A dictionary process for documenting & sharing signs used by skilled signers.* Proceedings of the Deaf Way Conference. Washington, DC: Gallaudet University.

Describes the process used in the Technical Signs Project (TSP), and the relationship of the TSP process to the Natural Sign Development Process (NSDP). The TSP, a "dictionary type" project, was designed to assist in supporting effective sign communication by documenting and sharing signs currently used by skilled signers. Give the results of the TSP up to the date this publication was written (57 videotapes for 23 technical/specialized areas, 9 published sign manuals, and 2 sign manuals in preparation), the authors conclude, "...there is no need for artificial sign development or invention; rather, there is a need for observing, documenting, and sharing what skilled sign users do."

Note: Additional information about materials and distributors of sign language materials for technical terminology/communication is provided at http://www.rit.edu/~fccncr/ASLDCM.htm.