

A Closer Look: Creating Interactive CD-ROMs for Sign Language Vocabulary Development

Sharon Downs, Coordinator
Arkansas State Outreach and
Technical Assistance Center
University of Arkansas at Little Rock
Little Rock, Arkansas

Heidi Lefebure, Outreach Specialist
Arkansas State Outreach and
Technical Assistance Center
University of Arkansas at Little Rock
Little Rock, Arkansas

Abstract

The Arkansas State Outreach and Technical Assistance Center has developed an interactive CD-ROM entitled *A Closer Look: Signs for American National Government*. This and future CDs in this series will target sign vocabulary for specific courses in secondary and postsecondary settings. This series is being developed specifically to improve both interpreting services in educational settings and the Deaf students' comprehension of specialized English terminology in high school and college courses. For each term, a video clip will show the concept in sign. Along with the video, the user will also see the English definition and the concept used in the context of a sentence. The goals of this ongoing project: to improve both interpreting services in educational settings and deaf students' comprehension of specialized English terminology for better comprehension of course material and improved test scores.

Addressing a Need

The Arkansas State Outreach and Technical Assistance Center (SOTAC) has developed the first interactive, educational CD-ROM in a series. *A Closer Look: Signs for American National Government* was made available in early 2002 through the PEPNet Resource Center at <<http://prc.csun.edu>> for the target audiences of sign language interpreters in the educational setting, students who are deaf, interpreter education programs, and teachers of students who are deaf. This paper will provide the reader with an understanding of why this series is being developed as well as a basic description of the processes used to develop the first CD and the second CD, which is currently in production.

This product, *A Closer Look: Signs for American Na-*

tional Government, and future ones in this series will be produced to address several needs that have been observed in Arkansas, and that exist nationally. Over the years, an area that has needed continual improvement is interpreters' knowledge of specific sign vocabulary for college-level courses. Many times the student who is deaf does not have a familiarity with those signs either. Combining these two factors means that the interpreter and the student spend the first several class periods of a college course inventing what signs they are going to use for each new concept. Because their time is being used to establish sign choices, the student is not receiving course content along with the rest of the class. It also means that the signs they invent are haphazard, at best. And what if a substitute interpreter must be used? The substitute interpreter will have no idea what to sign for the new concepts. Thus, the substitute interpreter and the student have to start all over or resort to an abundant amount of fingerspelling – neither being an ideal situation.

The developers recognized the need for an interactive curriculum that would demonstrate course-specific sign vocabulary. Because of the benefits over standard VHS videotape, the interactive format of a CD-ROM was chosen. A user can view specific signs and terms in the sequence he/she chooses. Replaying a specific video clip is as simple as clicking the 'play' button as often as needed – there is no rewinding a videotape. On each CD-ROM in the series, the concepts are demonstrated in ASL, the English definition of each term is given, and the term is used in an English sentence. These three representations address the equally strong need for Deaf students to connect the English verbiage to what is being signed. Seeing the ASL rendition of the concept alongside the English definition and contextual use should improve the deaf students' command of course-specific terminology for better comprehension of course material and improved test scores.

Project Development

The making of the first CD, *A Closer Look: Signs for American National Government*, was a learning experience. It laid the groundwork for the future CD-ROMs that will be developed over the next five years in the *A Closer Look* series, including *Idioms*, *English Composition*, *Sports*, and *Math*.

Prior to beginning the project, the developers contacted local experts for recommendations on purchasing

necessary software, a digital video camera, and digital editing hardware. The decision was also made to develop the initial product in a manner that could be replicated in-house. This will require utilizing staff for all phases of developing future CDs. The benefits of doing all the work in-house are self-sufficiency and cost savings. After the initial expenses of equipment and training, only limited funds will be required for contracting with interpreting professionals to conduct research on appropriate signs in future topics and for duplication of the CDs.

To begin development of *A Closer Look: Signs for American National Government*, the developers contracted with a seasoned interpreter with recent experience in the education field, as well as with a Deaf individual with a degree in Political Science. The two collaborated with faculty from the interpreter education program at the University of Arkansas at Little Rock and with the Arkansas SOTAC staff to establish the concepts that would be covered. Once these two individuals researched the signed concepts, they provided the Arkansas SOTAC with a videotape that show how each concept was to be signed.

A student from the University of Arkansas at Little Rock contributed to the project by designing a CD cover and label which could be replicated for future CDs. Local interpreters and deaf people served as models for filming, using the signs from the videotape; and talent was brought in for the voice-overs. In-house activities (and software used) included filming, audio production, video editing (Adobe Premiere), developing an overall product design or 'skin' (Adobe Photoshop), as well as developing definitions and contextual information appropriate for the terms and signs (Microsoft Word). The final phase required contracting with a local professional to pull the pieces together and author the CD. After a great deal of testing and retesting, *A Closer Look: Signs for American National Government* was born. Through the use of Acrobat Reader and QuickTime Viewer, the user can easily navigate through a comprehensive list of terms and quickly choose which one he/she wishes to review via video clips. Both of these free programs are included on the CD.

Further Development

The professional who authored the first CD-ROM provided training to the staff, and continues to provide technical assistance as needed. The process to develop each of the future CDs will be very similar, but modifications occasionally will be needed. At the time of this writing, the second CD, *A Closer Look: Signs for Idioms*, is well underway. Since the production of this second CD is being done in-house by SOTAC staff, obviously there are several more steps to be completed. These were previously completed by the local professional who authored the first CD. Throughout the following description of this second CD production, software titles

are included which have been or will be used to accomplish the tasks.

Faculty from the interpreter education program at the University of Arkansas at Little Rock contracted to develop: 1) the list of concepts to be demonstrated, 2) sign demonstrations on video, 3) appropriate definitions and context examples. External talent is used to provide voice-overs.

The initial CD cover design, label design, and overall 'skin' of the program have been adapted to the appropriate color scheme (Adobe Photoshop) for the second CD. The SOTAC staff used a professional studio for videotaping, and the digital video editing is currently underway. This process will include replacing the background with a graphic to match the overall product design, adding the audio track for each video clip, and editing the length of each video clip (Adobe Premiere and QuickTime Pro).

The lists of concepts, definitions and context examples were initially set up in Microsoft Word. Several conversions have taken place to the original file and it has been authored into Adobe PageMaker to set up the 'pages' of the program. Once these pages are developed, the file will be saved as in PDF (Portable Document Format) format to be read in Adobe Acrobat. Adobe Acrobat will be used to establish the links for all buttons and video clips as well as developing the bookmark list available for easy navigation. Once completed, a user will be able to use Adobe Acrobat Reader and QuickTime Viewer to navigate through the program, choosing the concepts to learn or review. Both of these free programs will be included on the CD. An AutoPlay screen will also be developed. This screen is automatically displayed when a user inserts the CD into the computer.

Because the staff has acquired so much information about the technical aspects of digital video editing and CD-ROM layout and production, a 'how-to' manual will be available on the Arkansas SOTAC website <www.ualr.edu/~sotac>. This manual will include more in-depth information regarding the processes chosen as well as numerous graphics to help illustrate various steps. Anyone interested in tackling a similar project will be welcome to download the manual and use it to streamline his or her work. Of course, the software used in this project and the manner in which the developers chose to put the product together are just one of many strategies that can be used. The manual should be seen as a guide for one possible way to develop such a product, but not as the definitive process.

Utilizing the wealth of resources in deafness available in Arkansas and within the PEPNet family, the developers look forward to eventually having a series of 10 to 15 CD-ROMs to improve both interpreting services in educational settings and deaf students' comprehension of specialized English terminology for better comprehension of course material and improved test scores in high school and college courses.