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high tech center training unit

A faint, light gray graphic of a globe showing the continents, positioned to the left of the main title.

Internet Access in the DSP&S Programs of California Community Colleges

*An initial study of the availability and
location of e-mail and Web access for
staff and students of DSP&S programs in
the California Community Colleges*

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The purpose of this report

The past eighteen months have seen dramatic changes in the ways information is shared across the complex and rapidly changing California community college system. One of the most significant areas of change in dissemination of information from paper and fax to e-mail and the World Wide Web. Over the last three years, the High Tech Center Training Unit of the California Community Colleges Chancellor's Office has worked closely with DSP&S programs state-wide to provide a variety resources with which to capture and use this expanding wealth of electronic information.

Like many other training and support facilities, the High Tech Center Training Unit has begun using, and plans to substantially expand, its use of e-mail, World Wide Web, listservers, on-line databases, chat and threaded bulletin board services to rapidly bring new information to the one hundred sixteen High Tech Centers around the state.

Essential to such a change in the delivery of critical information is an understanding of the impact it may have on community college programs for students with disabilities which depend on up-to-date information in order to provide the best and most efficient types of assistive and instructional computer technology.

Responding to requests from the High Tech Center Unit Advisory Committee and the High Tech Center Training Unit Performance Review team that colleges not be excluded from access to information as a consequence of transitioning to electronic delivery of some services, the High Tech Center Training Unit began a survey of every California community college DSP&S program to determine the availability and location of key information retrieval on campus for staff and students.

In order to reach the widest possible number of respondents, a simple, one-page survey instrument was formulated and sent, via the U.S. Postal Service to DSP&S Program Directors at 116 California community college High Tech Center sites. The intent of the survey was to gather information about:

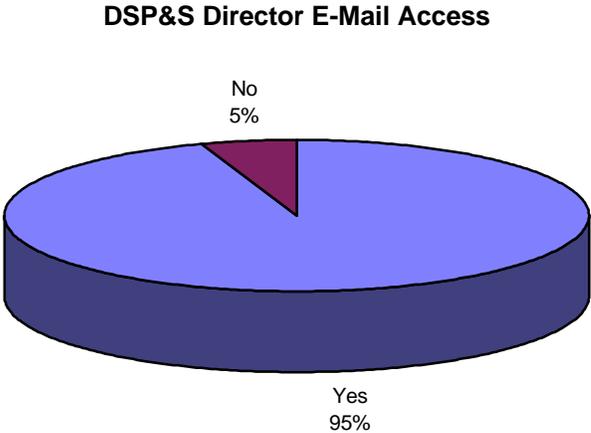
- The availability and location of e-mail access for DSP&S Directors, High Tech Center staff and DSP&S students.
- The availability, type and location of access to World Wide Web browsers for DSP&S Directors, High Tech Center staff and DSP&S students.

The survey request was sent in late May and a second follow-up survey, to those who hadn't responded, again in mid June. Seventy-five (75) of the one-hundred sixteen (116) sites surveyed responded, a response rate of almost sixty-five percent (65%). Simple counts and percentages were used to tabulate the data.

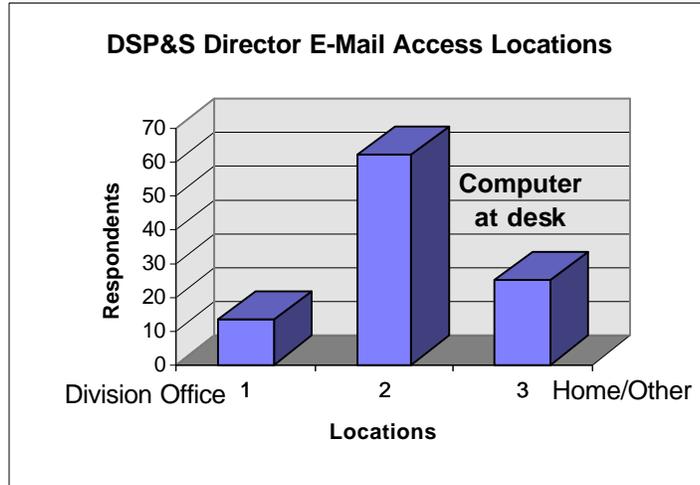
E-Mail Access for DSP&S Directors, HTC Staff and Students

The ability to send and receive e-mail is essential. Equally important is the ability to access e-mail from a readily available and familiar location.

Among DSP&S Directors who responded to the survey, seventy-one (71) had access to e-mail and four (4) did not.

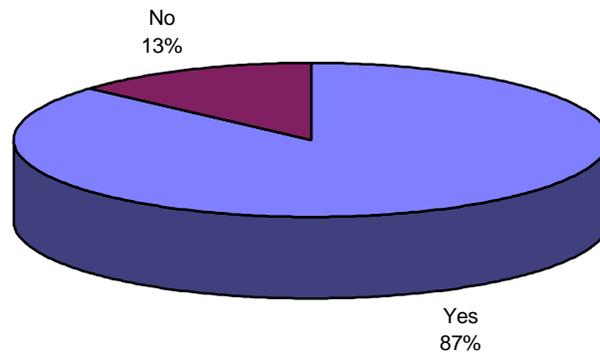


Among the DSP&S Directors who responded to the survey, thirteen (13) had access to e-mail from the Division Office, sixty-two (62) from a computer at their desk and twenty-five (25) from home or other locations. (Note: respondents may have e-mail access from more than one location).



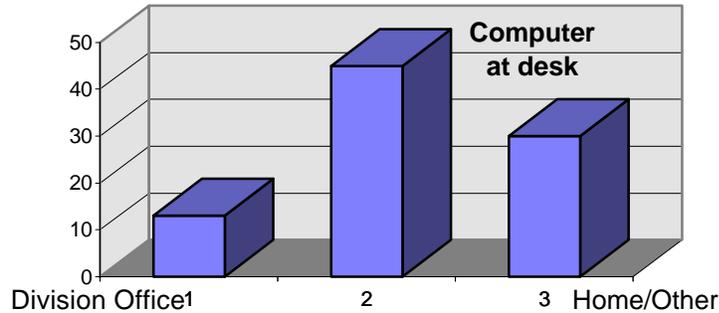
Among the High Tech Center Specialists who responded to the survey, sixty-five (65) had e-mail access and ten (10) did not.

High Tech Center Specialists E-Mail Access



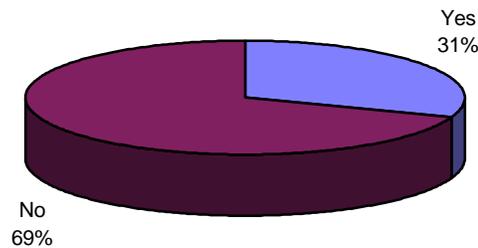
Among the High Tech Center Specialists who responded, thirteen (13) had e-mail access from the Division Office, forty-five (45) from computers at their desk and thirty (30) from computers at home or other locations. (Note: respondents may have e-mail access from more than one location).

**High Tech Center Specialist
E-Mail Access Locations**

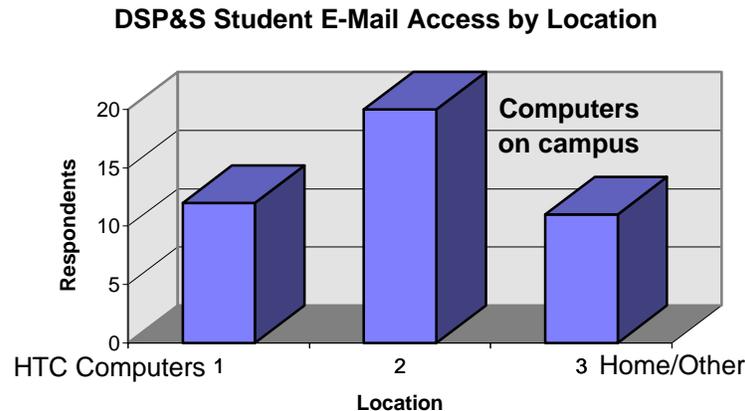


Information about DSP&S student access to e-mail was provided by the college survey respondent. Among those who responded, twenty-three (23) indicated that DSP&S students had e-mail access and that fifty-two (52) did not.

DSP&S Student Access to E-Mail



Information about the location(s) at which DSP&S students had access to e-mail was provided by the college survey respondent. Among those who responded, twelve (12) provided access through computers in the High Tech Center, twenty (20) through computers on campus and eleven (11) through computers at home or in other locations.



WWW Access for DSP&S Directors, HTC Staff and DSP&S Students

Increasingly, access to the World Wide Web (WWW) is becoming an indispensable resource for retrieving important documents, staying in touch with new information, identifying useful resources at other colleges, and a wide range of other functions integral to the operation of the California community colleges.

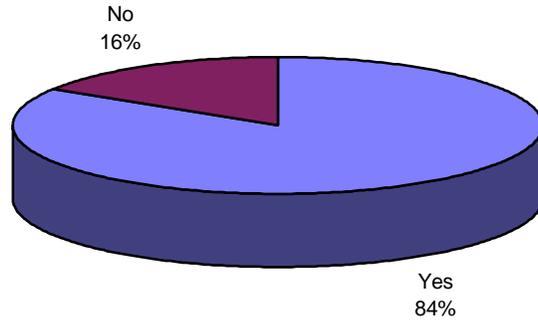
The High Tech Center Training Unit has begun making extensive use of the Web to rapidly disseminate new information about emerging technologies, distribute training materials, facilitate electronic dialogue between and among DSP&S Directors and HTC staff state-wide, simplify registration for trainings, provide access to HTC staff databases, provide links to useful sites on the Web, and access to High Tech Center Training Unit publications.

Given the increasing volume of valuable information being placed on both the High Tech Center Web site and on hundreds of other disability related sites on the Web in general, a thorough understanding of the capacity of California community college DSP&S programs to access these resources is essential.

In exploring the existing ability of DSP&S programs to access Web resources, this survey sought to discover the availability of Web access for DSP&S Directors, High Tech Center staff and DSP&S students, the types of Web browsers available (i.e. graphical browsers such as Netscape or Internet Explorer, text only browsers like Lynx or other specialized browsers) and the location of computers where Web access is available.

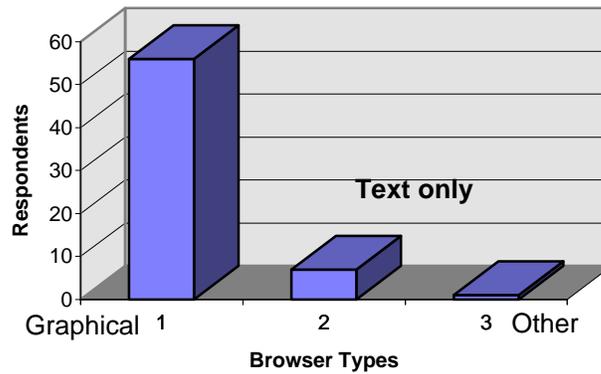
Among DSP&S Program Directors who responded, sixty-three (63) indicated that they had access to the World Wide Web and twelve (12) indicated that they did not.

DSP&S Director Has Access To World Wide Web



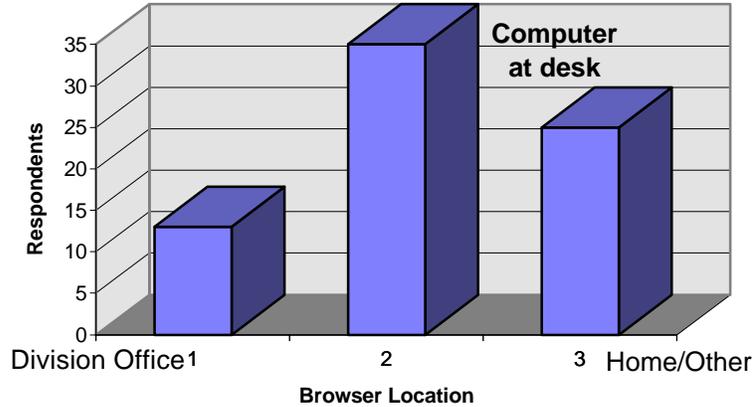
Among DSP&S Program Directors who responded, fifty-six (56) used graphical Web browsers, seven (7) used text only Web browsers and one (1) a browser of type Other.

Type of Web Browser Used By DSP&S Director



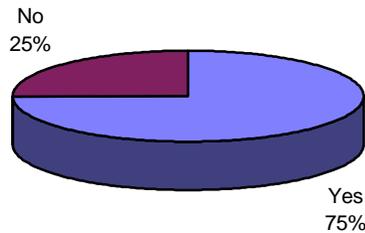
Among DSP&S Program Directors who responded, thirteen (13) indicated that the computer they used to access the World Wide Web was located in the Division Office, thirty-five (35) indicated the computer was at their desk and twenty-five (25) indicated the computer was at home or in some other location.

Location of DSP&S Director Web Browser



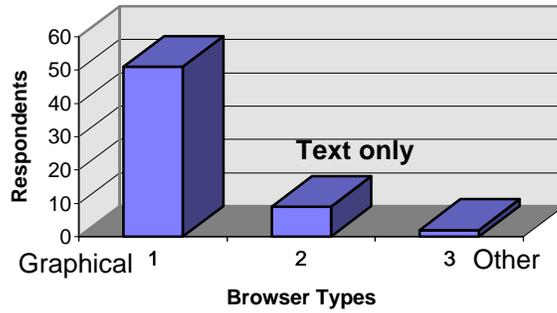
Among High Tech Center staff who responded, fifty-six (56) indicated they had access to the World Wide Web and nineteen (19) said they did not.

High Tech Center Specialist Access to World Wide Web



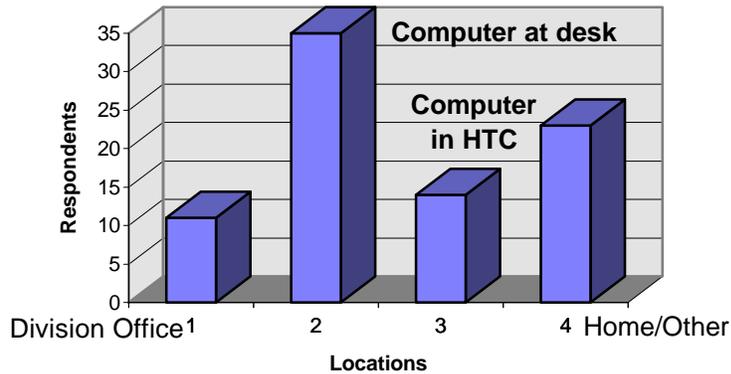
Among High Tech Center staff who responded, fifty-one (51) used graphical Web browsers to access the World Wide Web, nine (9) used text only browsers and two (2) used browsers of type Other.

Type of Web Browsers Used by High Tech Center Specialists



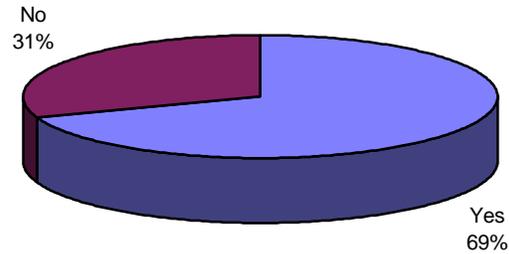
Among High Tech Center staff who responded, eleven (11) indicated that the computer they used to access the World Wide Web was located in the Division Office, thirty-five (35) indicated the computer was at their desk, fourteen (14) that it was in the HTC and twenty-three (23) indicated the computer was at home or in some other location.

Location of High Tech Center Specialist Web Browsers



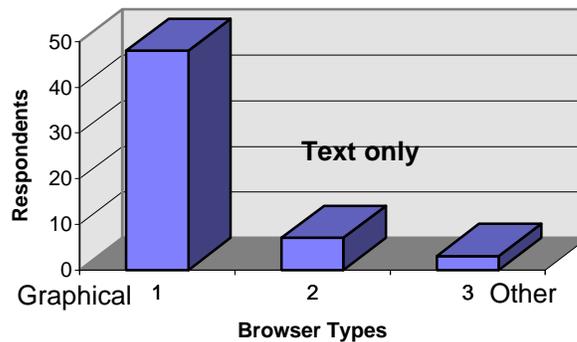
Information about DSP&S student access to World Wide Web was provided by the college survey respondent. Among those who responded, fifty-two (52) indicated that DSP&S students had access to the World Wide Web and that twenty-three (23) did not.

DSP&S Student Access to World Wide Web

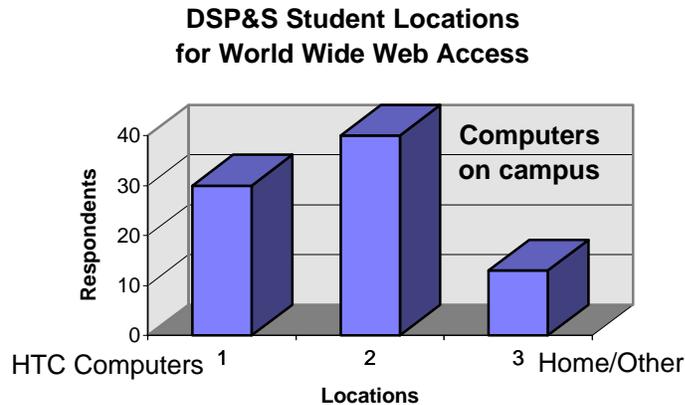


Information about the types of browsers DSP&S students used to access to World Wide Web was provided by the college survey respondent. Among those who responded, forty-eight (48) used graphical Web browsers, seven (7) used text only browsers and three used browsers of type Other.

Types of Web Browsers Used by DSP&S Students

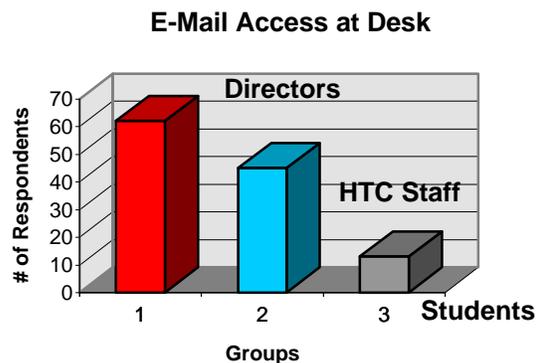


Information about the location(s) at which DSP&S students had access to the World Wide Web was provided by the college survey respondent. Among those who responded, thirty (30) provided access through computers in the High Tech Center, forty (40) through computers on campus and thirteen (13) through computers at home or in other locations. (Note: respondents may have WWW access from more than one location).



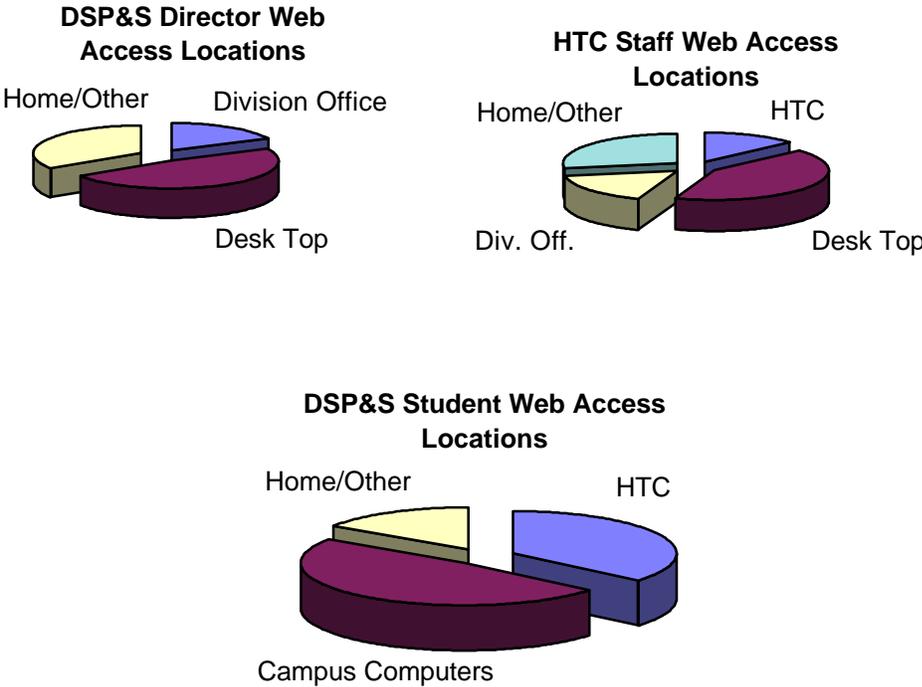
Conclusions

With regard to e-mail access, the majority of DSP&S Program Directors (96%), High Tech Center staff (87%) and, to a lesser extent, DSP&S students (69%) now appear able to send and receive e-mail. Assuming that access to e-mail from a computer at the desk is the most optimal location, as the chart shows, at the present time, DSP&S Directors have easiest access to e-mail at the desktop.



With regard to the World Wide Web, the majority of DSP&S Directors (84%), High Tech Center staff (75%) and, to a lesser degree, DSP&S students (69%) have the ability to access this important resource. For each of these three groups, the great preponderance of Web access is performed using graphical Web browsers (presumably Netscape or Internet Explorer).

The location of computers used to browse the Web appears to vary from group to group as the following charts demonstrate:



For more than half of the DSP&S Directors and High Tech Center staff who responded, access to the World Wide Web is not yet available from the desk top. Fortunately, the rapid expansion of local area networks and Internet access throughout the California community colleges should soon bring desk top access to both e-mail and WWW to the vast majority of full-time faculty, staff and administrators in the near future.

Looking at the information in another way, if these data are accepted as a representative sample of Internet access in DSP&S programs in the California community colleges, we find that:

- 4% of DSP&S Directors have no e-mail access
- 16% of DSP&S Directors have no access to World Wide Web
- 13% of High Tech Center staff have no e-mail access
- 25% of High Tech Center staff have no access to World Wide Web

Given the speed with which Internet access is being implemented in the California community colleges, the range of projects presently being funded by the Community Colleges Chancellor's Office to expand and enhance network infrastructure and the extensive availability of e-mail and World Wide Web access in DSP&S programs state-wide, it seems prudent of the High Tech Center Training Unit to continue, and even expand, the use of e-mail, World Wide Web and other methods of electronic dissemination to provide the 116 High Tech Center sites with the best and most current information in the fastest and most efficient ways possible.

As always, the High Tech Center Training Unit will rely upon the guidance and direction of the state-wide High Tech Center Training Unit Advisory Committee to provide further input and definitive counsel in this area.

Recommendations

Methods of instructional delivery in higher education will most likely change significantly over the next decade. Faster networks, enhanced video conferencing technologies, advances in the art and science of teaching with technology and the rapid development of high speed/high quality network access for the home will broaden opportunities for faculty to enhance learning opportunities for students through the use of appropriate and effective instructional technologies.

Learning opportunities which are enhanced with net-based technologies present a wealth of opportunities, as well as significant challenges, to faculty and staff of California community college DSP&S programs. Ignoring for the moment the trials and tribulations of installing and maintaining a campus wide network,

DSP&S faculty and staff will need to address the very real work of learning to be efficient users of basic Web information retrieval tools like browsers, search engines, discussion forums and listservers which will soon become as ubiquitous as word processors and voice mail. Training and support are essential.

Although not specifically addressed in this survey, the development of the World Wide Web as the medium of choice for the creation of distance learning resources raises the question of access for students with disabilities in the newly emerging world of virtual colleges and universities. Guidelines for the development of instructional Web pages which are "user friendly" to students with visual or learning disabilities are well defined but not yet legally mandated. At the present time, the development of distance learning Web sites which are also accessible to students with disabilities is largely dependent upon the knowledge and goodwill of the few faculty who have been exposed to the concept of "Universal Access" and the principles of accessible Web site design.

It is essential that High Tech Center staff and those mainstream community college faculty who are now, or soon will be, developing instructional Web sites, learn and use the tools and techniques which provide accessibility. As a starting point, a follow-up survey to determine existing knowledge levels among faculty about web page accessibility design issues and interest in web site accessibility training would be useful.

Finally, it is most important that we regularly “take the pulse” of Internet access in the DSP&S programs of the California community colleges. The dramatic changes and astonishing speed of development around this technology have the capacity to move students with disabilities miles ahead or leave them miles behind. Remaining well informed and active participants in the technology selection and distribution process on campus will assure DSP&S programs and students benefit equally from these new and exciting resources. Such “pulse taking” might include:

- regularly scheduled surveys designed to measure campus-wide network access issues to assure maintenance of equity for students with and without disabilities,
- Chancellor’s Office sponsored establishment of state-wide advisory groups to publish Web accessibility standards for instructional Web pages,
- creation of a group within the state-wide distance learning task force to respond to access issues related to distance learning, and
- inclusion of language in Chancellor’s Office RFAs related to network infrastructure and distance learning which require applicants to address access issues for students with disabilities.

As always, the High Tech Center Training Unit welcomes and invites responses from DSP&S Directors, High Tech Center staff and other interested persons on these important issues. In order to facilitate state-wide dialogue, a new electronic discussion forum titled Internet Access has been created at the High Tech Center Web site (<http://WWW.htctu.fhda.edu>). To use this forum, go to the Web site, click on Discussion Forums, select Internet Access and add your comments.

You may respond by e-mail addressed to cbrown@ginko.htctu.fhda.edu or by mail addressed to the High Tech Center Training Unit at the address listed above.

We look forward to your comments and suggestions.