Use of the Internet in foreign language education, as a means of accessing authentic texts and current cultural information, is discussed. First, requirements for accessing the Internet are outlined, including obtaining an account, assessing software needs, and learning to navigate the network. General uses of the network are then examined, with advantages and disadvantages noted. These include communications (electronic mail, electronic bulletin boards, real-time conferencing) and finding and downloading information. Two student activities using these applications are described: gathering information on recent current events, and exploring the Internet for resources. Preparation, the activity itself, advantages, and problems are discussed. Appended materials include lists of access codes for new groups, academic listing services and electronic journals, gophers, World Wide Web resources, and miscellaneous resources. Additional sources of information about the Internet (print, electronic, and individual contact) are also listed here. (MSE)
USING FOREIGN LANGUAGE RESOURCES ON THE INTERNET
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Introduction.

For foreign language educators who are looking for ways to add authentic texts and up-to-date cultural information to their classes, the Internet offers some unequaled opportunities. There are many resources, from all over the world, available to them and their students through their computers. The Internet will allow instructors and students to gather information on current events, build their reading and writing skills via correspondence with native speakers, increase their awareness and understanding of contemporary cultural values, and even ask questions about everyday life in specific job settings. All this does not come without some cost, of course: educators and students must gain access to the net, learn to navigate a complex, constantly changing system, contend with character sets that don't allow conventional spelling, and sort through large amounts of questionable material to find things of significant value. However, the benefits outweigh the costs, and the currently abundant references to the "Information Superhighway" reveal that people from all walks of life have already found the Internet to be a worthwhile resource. This paper presents a discussion of the requirements for accessing the Internet, some general categories of potential uses for foreign language learning, some plans for pedagogical applications within these categories, and discussion of the advantages and disadvantages of each application. In addition, an appendix presents a selection of resources available on the Internet.

What is needed to use the Internet?

The first obstacle is access to a computer that can connect to the net. There are three primary options for most educators: if one is affiliated with a university, either as an instructor or as a student, it is generally easy to get an account on the university mainframe. (Institutions of higher education are almost universally connected to the Internet.) A second option for many educators is to register with a free local or statewide service. Various networks, such as Education Central in Michigan, are available to professional educators and can be accessed via a local telephone call. The third option is to pay for an account with another provider (such as MERIT or Compuserve) that offers a gateway to the net. For users at university sites, it is generally possible to get access to the mainframe without having a personal computer, but the other options require users (or their districts) to own a computer and a modem.

In addition to the necessary hardware, appropriate software is obligatory. While university mainframe users will find that their software needs will already be met by the local network administrator, others must have basic communications software, transmissions control protocol Internet protocol (TCP/IP), and various applications for remote login (Telnet), file transfer (FTP), electronic mail, and for group discussions (e.g., Usenet News). Additionally, all users must have good virus protection software.
Once the necessary hardware and software are in place, the second obstacle is learning how to navigate on the Internet. This requires reference works (see Appendix), patience, determination, and large chunks of time. Familiarizing oneself with the various applications, the differing resources available, and the constantly changing options that characterize the net, all present significant challenges. Fortunately, they are not insurmountable, although it helps to have others with whom to share discoveries and successes (and to commiserate when things that worked yesterday don't work today).

General Uses of the Internet.

The Internet is becoming extremely popular, both with academe and the public at large. The multitude of printed guides to the net that are available in most bookstores and the frequent articles in the popular media testify to the burgeoning interest in the resources and tools the net makes available. We have found four broad categories of use of the Internet: communication, finding and downloading information, finding and downloading computer applications, and making your own contributions to the resources and tools on the net. This paper deals only with applications in the first two of these four possibilities, but much of what is said about the second (finding and downloading information) is also immediately applicable to finding and downloading computer applications as well.

Communication. Electronic mail is of course the most familiar of the communication possibilities. The most common procedure involves using a mail software package to send a message to an individual whose e-mail address you already know. While much faster than physical paper-based mail, this still requires waiting for the addressee to get around to reading the e-mail and to responding to it. Getting a reply may take several days, depending on how frequently both you and the addressee log on. A widespread application of this technique is to issue mainframe accounts to all the students in a particular class, which allows the instructor and students to communicate about assignments. Another common use of e-mail is facilitated by the many teachers world-wide who make key-pal arrangements for their students, thereby enabling them to communicate with native speakers on topics of mutual interest. A good example of a key-pal experiment for a culture class can be found in Knight (1994). Since regular electronic mail is already familiar to most of the audience, we will not devote any more time to this communication technique, but will instead discuss some additional options.

Other communication possibilities that we have found interesting and beneficial to our students are 1) posting queries and reading answers on electronic bulletin boards, and 2) real-time conferencing with both native speakers and American interns (or alumni) located in a foreign country. The sections that follow present pedagogical applications of these communicative uses of the Internet.

1. Posting queries and reading answers in the language on an electronic bulletin board.

Gateway: Usenet News. The bulletin board format of Net News allows for a kind of delayed yet quasi-personal interactivity without excessive expenditure of
time needed to arrange for correspondents. Of the myriad groups on the "NEWS" service, soc.culture.french often has correspondents in France and Quebec who reply in French to messages that are posted in French.

Preparation: questions. An effective procedure is to have students prepare, individually or in groups, a concise statement of a situation, followed by a question. Here, the area of students' interest is the starting point. The instructor will very likely want to review the item for correctness and style before posting.

Activity: log-on, post; return later for answers. This activity requires that students research a topic of current interest, draft a brief summary of the chosen subject, and formulate a question that is likely to stimulate an interesting response. They must use the available word processor/editor to create the message and execute the Post command of the Net News utility to put it on the electronic bulletin board. The posted item appears on the bulletin board within the hour, with the "subject" entry as the title. In a day or so, replies appear with titles starting "RE:..." followed by the original title or something close. The early answers are usually pertinent to the original question or concern; later ones may be comments or replies to some of the previous comments. Students can follow a conversation sparked by their item of interest and may add further comments or questions as they wish. Items can be downloaded and printed for presentation in the classroom or as evidence of work accomplished.

Advantages: A principal advantage of this activity derives from the willingness of the various native-speaker correspondents who provide spontaneous, authentic input on practically any subject of interest. Furthermore, given that messages can be composed before posting, students have the opportunity to develop an idea, obtain correction and work on revision before broadcasting to all the world. This reduces somewhat the anxiety of a "live" interactive situation, which might be overwhelming to intermediate students. The virtually open agenda of topics encourages student interest, but, at the same time, it may require some prodding and assistance in developing ideas for posting.

Disadvantages: Since the timing of responses and their content cannot be controlled, queries undergo the fate of any bulletin board posting. The experience so far, however, has been very positive.

2. A desktop-to-desktop, real-time connection with an e-mail correspondent in Germany.

Gateway: A variety of hardware and software combinations allow direct desktop-to-desktop connections. In the following description, MacKnowledge software loaded on a Macintosh IIsi connected to an external LineLink 144e modem was used to communicate with an IBM setup in Germany. The communications control settings required adding line feeds to carriage returns so that text would continue running down the page and not be replaced as each new line was typed.

Preparation: questions. Several weeks in advance of a pre-scheduled desktop-to-desktop connection, the instructor informed students in his senior-level business German class that he was communicating via e-mail with a former student who was working in a small German computer company in Karlsruhe, Germany. The student had offered to supply supplementary information for the course on German
business culture in consultation with his native German colleagues in the firm. The instructor thereupon directed his students to prepare questions of interest to them pertaining to (small-c) cultural, interpersonal aspects of working in a small German company. After he collected the questions, the instructor selected those that reflected the concerns of most students in the class, edited them, and e-mailed them to the former student in Karlsruhe. The student distributed them to his native German colleagues in the company for perusal in preparation for a real-time, desktop-to-desktop discussion to take place a few weeks later.

Activity: From a colleague's office on the day and hour of the scheduled connection, the instructor dialed and connected with the desktop in the company in Germany using the procedure described above. During the ensuing real-time discussion, the German colleagues responded to the pre-submitted questions from the American students. The questions dealt with a range of issues and concerns, from sexual harassment and its consequences in the German workplace, to the German version of the "Glass Ceiling," i.e., opportunities -- or lack thereof -- for professional advancement for German business women, to the subtleties of using the formal "you" (Sie) or the informal "you" (Du) in the workplace. The activity was very informative, and the information as current as it could possibly be; it was, moreover, a lot of fun! We agreed on both sides to continue our electronic exchange as often as time and circumstances would permit.

Advantages: a desktop-to-desktop, real-time connection with a keypal has the advantage of eliciting responses to questions that are of the most immediate cultural currency. A further advantage is that the students can send their queries, either by regular e-mail or normal post, to the correspondent well in advance of the real-time connection. This provides the correspondent with ample time to consult with native-speaking colleagues and have a well thought-out response ready at the date and time scheduled for the desktop-to-desktop connection. Another advantage, perhaps more impressionistic than factual, is that the communication seems more relevant and pertinent to the interpersonal dynamics and social encounters of a particular workplace than other modes of communication because -- at least in this case -- it emanates instantly from that source. Of course, the pedagogical advantage over a normal telephone connection or a perfunctory e-mail message is that the instructor can print out a hard copy transcript of the prepared discussion for more intensive didactical application in the classroom.

Problems: Really more an inconvenience than a problem is the need for a modem expert who knows the settings and procedures for establishing the international hookup. We are fortunate in this case to have a contact in a computer firm with on-staff expertise who provided us in advance with the specifications per regular e-mail. The cost of international phone calls, however, makes this activity something of a luxury.

Finding and downloading information. The second general category of use leads us to systems for connecting to information sources. The principal tools in this area are: bulletin boards, academic lists, electronic journals, gophers, and the World Wide Web. The bulletin boards (e.g., Usenet News), in addition to their communicative function, also provide timely information, although much of it
may be of questionable validity. Academic lists and electronic journals, on the other hand, are generally more serious and in many cases are monitored or even refereed. Gophers are possibly the most rapidly growing tool. Based on a model developed at the University of Minnesota, gophers allow you to select from hierarchical menus of options that lead to information on an immense array of topics. The information may be stored anywhere in the world and still be accessible to you through the interconnected system of gophers. Another global system is the World Wide Web, a set of linked hypertexts containing buttons or hotspots that permit you to jump to other, related texts. The Appendix contains lists of these tools that may be of interest to foreign language teachers. The sections that follow present pedagogical applications of these tools for finding and downloading information from the Internet.

1. Gathering recent information on current events.

Gateway: gopher. Of the many resources available on various gophers, the French Language Press Review (look under News/French Language Press Review) is very valuable. Issued daily Monday through Friday by the Ministry of Foreign Affairs and transmitted by the French Embassy in Washington, D.C., through Georgetown University, the review is usually available by 11:00 a.m. Eastern Time. It consists of briefs concerning various interests: a) summaries of a dozen stories current in France and the world, usually including some sports, provided by Agence France Presse; b) a brief overview of the previous day's headlines from six or seven French newspapers, followed by two or three major headlines quoted from each one; c) summaries and quotes from a few commentators; and d) the international monetary exchange rates. The reports can be downloaded as ASCII files and come in two formats, unaccented and accented. The latter uses substitute characters to indicate diacritic marks (e.g., e' for é), which allows a word processor, by means of documentwide substitution, to readily replace a letter-character combination with an accented letter.

Preparation: questionnaire. This resource is used effectively when the instructor reads the review and prepares questions to guide student reading. An hour or so may be needed to scan the reports and draw up a dozen questions. The instructor's knowledge of students' interest and skill level is important in finding topics of interest and designing comprehensible questions.

Activity: log-on, access, read, answer questions. This activity, requiring a search of the full report for specific information, engages the student in active reading, processing of gathered information, and paraphrasing in writing answers.

Alternative activities: choosing one topic, following a topic. Since a full year of reports is immediately accessible, it is possible to research a topic and follow its evolution over a period of time. Given the summary nature of these reports, however, such research should be supplemented by other traditional sources.

Advantages: The major advantages of this resource for a learning activity are the fact that it is in print format and that it is very current. While not quite as fresh as the morning radio news, this resource is at least several days to a week or more ahead of traditional print material received in the library periodical room or via the U.S. mail.
Problems: These include the level of reading skill required, the specificity of interest, the written accent problem, and the fact that authors' rights disputes and the Minitel hegemony may soon force cancellation of this service.

2. Exploring the Internet for resources. Gateway: FTP. An advanced activity leads students to explore the Internet for resources. Two utilities, Archie and FTP, provide useful search and retrieval capabilities. Two kinds of resources that foreign language learners will find pertinent are sound and fine arts graphics. Several locations have various files that can be transferred and, with some tinkering, played as sound or displayed on a color monitor or even printed.

Preparation: searching sources. Since browsing easily becomes a time-intensive activity, the instructor needs to have pre-searched several locations and identified potentially interesting files. The Archie utility allows a user to search by keyword, but browsing via gopher (and the Veronica index of archives) can be fruitful.

Activity: search and transfer. Once a site is located, FTP allows the user to navigate the directories of the site and to transfer any available sound or graphics files. Students can participate in this activity while working at a mainframe, but the latter's limitations in playing sounds or displaying graphics may make it necessary to further transfer the retrieved file to a desktop computer having the necessary hardware and software.

Advantages. Access to materials in a form that is useful for computer-based presentations and classroom activities.

Problems. Above all else, the complexity of Internet can overwhelm the novice. Students skilled in telecomputing are readily inclined to search remote sites for material in foreign language and culture and learn what interests they may share with others. It is clear, however, that the technical complexity of this activity is an issue. Students with little expertise risk being baffled or preoccupied by the pathways and losing the foreign language and culture focus. Nevertheless, as a demonstration of the potential power of telecomputing for accessing valuable resources it is instructive.

Conclusion. This paper has provided foreign language educators with an introduction to the requirements for accessing the Internet and some examples of pedagogical applications in the general categories of communication and finding information on the net. Currently, considerable effort is required to make use of these capabilities, but the rewards for both instructors and students are sufficient to make the effort worth their while.

WORK CITED

APPENDIX: SOME RESOURCES OF INTEREST TO FOREIGN LANGUAGE TEACHERS

1. Usenet News groups (news)
   alt.usage.german
   bit.listserv.slart-l
   bit.listserv.edtech
   can.francais
   comp.sys.mac.hypercard
   k12.chat.teacher
   k12.lang.deutsch-eng
   k12.lang.esp-eng
   k12.lang.francais
   rec.games.mud.announce
   sci.lang
   soc.culture.argentina
   soc.culture.caribbean
   soc.culture.chile
   soc.culture.french
   soc.culture.german
   soc.culture.latin-america
   soc.culture.mexican
   soc.culture.peru
   soc.culture.spain
   soc.culture.uruguay
   soc.culture.venezuela

2. Academic lists and electronic journals

   (To subscribe to a LISTSERV discussion list, e.g., EDNET@NIC.UMASS.EDU, send an e-mail message addressed to LISTSERV@ADDRESS, where ADDRESS is the e-mail address included in the listname, e.g., @NIC.UMASS.EDU. Leave the subject line blank. The text of the message must read:
   SUBSCRIBE LISTNAME Yourfirstname Yourlastname Yourinstitution
   where LISTNAME means the name of the list, e.g., EDNET. If the address doesn't end in EDU, you'll need to add .BITNET, e.g., CHUG-L@BROWNVM.BITNET.)

   gopher gopher.usask.ca path /Computing/Internet Information/Directory of Scholarly Electronic Conferences ("complete" list of lists)
   gopher gopher.cic.net (electronic journals)
   Listnames / Keywords:
   CHUG-L@BROWNVM / Humanities and Computers
   HCFNET@UCSBVM / Humanities and Computers
   HUMANIST@BROWNVM / Humanities, Literature, Language
   EDNET@NIC.UMASS.EDU / Ed Tech, Computers, Info Nets
   EDTECH@MSU / Ed Tech, Instruct Systems, Multimedia Instruct
EDUSIG-L@UBVM / Computers, Ed Tech, Instruct Systems
ERIC-L@UBVM / Literature Teaching
KIDCAFE@NDSUVM1 / Children, K-12 Networking
KIDSPIHERE@PITVMS / Children, Pre-adolescent, K-12 Networking
JPINFO-L@JNSUT00 / Japan, Japanese Culture
AATG@INDYCMS / German Language, Teachers of German
CAUSERIE@UQUEBEC / French Language
GERLING@UICVM / Germanic Languages, Old German Language
SCOLT@CATFISH.VALDOSTA.PEACHNET.EDU / Language Teaching
SLART-L@CNNYVM / Second Language Acquisition
TESL-L@CNNYVM / Second Language Instruction, Bilingual Education
ARGENTINA@JOURNAL.MATH.INDIANA.EDU / Argentina, Latin American Studies
BORIKEN@ENLACE / Puerto Rico, Latin American Studies
CHILE-L@PURCCVM / Chile, Latin American Studies
CHILENET@UCHCECVM / Networking, Chile, Latin American Studies
COLEXT@ANDESCOL / Colombia, Latin American Studies
CREAD@YORKVM1 / Latin American Studies, Caribbean Studies
ECUADOR@NERS6KI.NCSU.EDU / Ecuador, Latin American Studies
LASNET@EMX.UTexas.EDU / Latin American Studies, Info Exchange Students
LASPAU-L@HARVARDA / Latin American Studies, Scholarships Info Exchg
LATINO-L@AMHERST.EDU / Latino Students
MCLR-L@MSU / Latin American Studies
MEXICO-L@TECMITYVM / Mexico, Latin American Studies
PERU@ATHENA.MIT.EDU / Peru, Latin American Studies
SIRIAC-L@ENLACE / Caribbean, Latin American Studies
UNIANDES@ANDESCOL / Andes, Latin American Studies
VZLA-L@YALEVM / Venezuela, Latin American Studies
LINGUIST@TAMVM1 / Linguistics
LN@FRMOP11 / Linguistics, Computational Linguistics
MULTI-L@BARILVM / Minority Language, Multilingual Linguistics
SCHOLAR@CNNYVM / Natural Language Textual Analysis
CHICLE@UNMVMVA / Chicano Literature
ENGLMU@MIZZOU1 / Computer Mediated Communications and Writing
LITERARY@UCF1VM / Literature, Literary Criticism
EC@TRIYETU / European Community
CW-L@TTUV1 / Writing and Computers
MBU-L@TTUV1 / Writing and Computers, Composition
3. Gophers
   gopher cwis.usc.edu path /Other Gophers and Information
   Resources/Gophers by Subject/Gopher Jewels (catalog of gopher sites by
   category / subject tree)
gopher english-server.hss.cmu.edu
   --has online journals (e.g., Cultronix)
   --possible model for everyone of collaborative uses of
   communications technology for education
   gopher gopher.mountain.net (good collection under /Education)
   --Apple Higher Education Gopher Server
   --Consortium for School Networking
   --Gopher servers in Europe
   --InterNIC: Internet Network Information Center (K-12)
   --ERIC servers
   --KIDLINK: Global Networking for Youth 10-15
   --Internet study
   gopher mac.archive.umich.edu (software, not just for Macs)

4. World Wide Web
   telnet info.cern.ch
   telnet ukanaix.cc.ukans.edu (login = www; terminal type = vt100) (Lynx
   interface) path /Information Resource Meta-Index /Whole internet
   Catalog (searchable) /NCSA Starting Points /Gopherspace Overview
   /Europe / leads to (gophers all over Europe) France, French Speaking
   Gophers Around the World, Germany, Spain
   Also has:
   Cyberspace for Language Scholars
   French and French Language
   Traveler's Tales Resource Center
   Hytelnet (comprehensive index of publicly-accessible electronic library
   catalogs)
   EINet Galaxy (searchable Hytelnet gateway)
   Multiple User Dialogue Simulations (MUDS) (some in German, other
   langs?)
   and much else.

5. Miscellaneous resources
   FTP ftp.acns.nwu.edu path /pub/disinfectant (latest version of Disinfectant
   for Macintosh)
   FTP santander.cber.nih.gov path /Spain/humor
   telnet lib.dartmouth.edu type "select file world" (CIA Handbook of
   information on many countries)
   telnet nis.calstate.edu (login = intl) (international education Bulletin Board
   Service)
   FTP photo1.si.edu path /images/gif89a (many full-color images)
6. Further information about the Internet
   a Books
      Fraase, Michael. (1993). The Mac Internet Tour Guide: Cruising the
      Internet the Easy Way. Chapel Hill, NC: Ventana Press.
      Gibbs, Mark & Smith, Richard. (1993). Navigating the Internet. Carmel,
      IN: Sams Publishing.
      Sebastopol, CA: O'Reily & Assoc.
      and *many* others.
   b. Files on the net
      Anonymous FTP from rtfm.mit.edu path /pub/usenet/news.answers
      for *many* different Frequently Asked Questions (FAQ) files,
      including The Big Dummy's Guide to the Internet.
      Gopher to nic.merit.edu path /anonymous FTP/
      introducing.the.internet /information sources
   c. Usenet news groups
      alt.internet.services
      comp.infosystems and its spin-offs (archie, gopher, wais, www)
   d. World Wide Web (www) via telnet to info.cern.ch or to
      ukanaix.cc.ukans.edu
   e. Your local network administrator and computer consultants.