

LLTI Highlights

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Welcome to "LLTI-Highlights." This column features a selection of important electronic discussions from the LLTI—Language Learning and Technology International—listserv. The discussions of this column were posted during the second half of the year 2003 and have been summarized and paraphrased by me. Otmar Foelsche, the moderator of the electronic discussion list, has assigned a reference number to each topic that appeared in the discussion list. This number can be used to search the LLTI archives. Instructions on searching the archives appear at the end of this column.

Digitizing media files for the web

Ralph Schultz initiated the July discussion on Digitizing media files for the web (#7193) with the following: "I am in the process of converting files to a streaming format. Has anyone done this? I was going to use Cleaner5 and convert files to MP3 streaming file type. But if someone has thrashed the bush before me, I would love to learn from your mistakes..." The first response came from Roberto Perez: "I used Cleaner5 to convert to Real Media (not .MP3, though), and I was frankly disappointed with the results. I tried different combinations of settings, even lowering the sound quality to 8 bits mono (sound quality really impacts file size), and could not bring the size or the image quality to any reasonable standard. I'm not sure if they use their own proprietary algorithms, but when I used the good old Real Player Producer 8 I got dramatically better results... This said, I cannot say that Cleaner5 is not good enough, I'm just contributing my own experience with it..." Daniel E. Meyers also reported disappointed results with Cleaner 5. He recommended the following: "... Capture the movie in iMovie (... using a Mac). Export the movie as a Motion JPEG A format at 15 fps with a size of 300x400. For sound, I am using the IMA 4:1 compression codec. When finished exporting, I get a movie in the range of 9-16 GB. Once the movie is exported, open the movie in QuickTime Pro. Export the movie again as an MPEG-4 file, 15 fps.... Keep the same size. I then get a movie in the range of 500-700 MB. The total time from capture to finished movie: 5 hours for a 2 hour movie." Ron Cramer added: "I was also not impressed with Cleaner 5, but we have used it in the

past to make .mp3 files with fine results. I don't know who your audience is, but most of our listeners are on-campus or have high speed connections. We generate our files at 44kHz, stereo, 128 kbps which, I believe, is the "standard" setting under Cleaner 5." In his message, Karl Fisher compared his experience in working with Apple products and with Real products: "I've been using iTunes to capture the MP3's off the publishers' CD audio disks and then preparing them for streaming with QuickTime Pro (all on Macintosh). The trick is to "Export" the files as streaming media rather than using the "Save as" option in QuickTime. You can choose the streaming rate at that time depending on your network capabilities. Then you can link to those movies to your web pages... I found the QuickTime solution a little easier than RealPlayer streaming, though the RealPlayer solution is more efficient. Many media players will play .rm files: The complicated part of using RealPlayer is that you must create a metafile (.ram) file for each media file in order for it to be accessible on the web. The metafile tells the browser that the server is sending a media file and that your computer should open the RealPlayer and get ready for it. In other words, you can listen to an .rm file over the web with a QuickTime or Divace player, but if you set it up for web use, the browser will automatically open RealPlayer and begin streaming. To play a .rm file with QuickTime or Divace, you have to open the .rm file as a URL from within media player..." To this, Judy Shoaf responded with the following: "This is the way it worked when I started using Real audio files—for each audio link I had to create a tiny .ram text file which contained the link to the actual audio—but now there is some kind of new programming that creates the .ram files on the fly. I think this must be done by the server, since it was our Real media server technician who instructed me on the new process. The web link points directly to the .rm file, but in the process of linking, the .ram file is generated. This can cause a problem... We use the Divace as a default player for the lab media in the LLC, and we just have to click on the link to access it. This was true under both the old and the new server systems. You have to set Divace as the default player for .rm files. (Divace paid big bucks to Real for this privilege, I believe, so it is probably not true of other players)." Several replies to the initial inquiry focused solely on tips for the conversion of audio files. Adulseranee Rosarin had the following recommendation: "I use AudioConverter. The quality is quite good and it only costs \$20. Go to <<http://www.audconv.com/>> ..." Judy Shoaf: "For audio conversion, we use Cool Edit from Syntrillium software. It costs something but it's quite nice and will save the audio as real media, .mp3, or

.wav, depending on how we plan to use it. We can also run some noise reduction programs and perform other tricks (cut and paste a pause, e.g.). It does not do video." Edith Paillat sent the following message from New Zealand: "We convert our analogue audio files with Sound Forge 6.0 (available at <<http://www.sonicfoundry.com>>); it is extremely powerful and fast ... and has plenty of options when dealing with video dubbing as well.... I think however that it is not cross-platform compatible and we are using it on PC." In a message from the LLTI editor, Otmar Foelsche wrote: "I have found this thread very interesting. There is an abundance of programs, workflows, and distribution schemes that probably deserves to be put into a more readable and searchable format than our archives. What I am thinking of is a website devoted to audio, video, and graphics digitization, compression, storage, and distribution—organized along various software programs/packages, with comments by actual users—focused on the needs of learning centers...."

Voice Recording Software for Mac OS X

Hiroyo Saito's query from late July started the August/September Discussion on voice recording software for Mac OS X (#7210) with the following: "I am wondering if anyone uses a free program that you can use for recording voice in the language center. Our center has Power Mac G4 with OS 10.2. I think we used PureVoice before, but I think this program does not run in OS X. I found QuickVoice, and it has all the functions we need—recording voice and sending it via E-mail. However, this is not free...." Cliff Myers suggested trying either iMovie or HackTV. For the latter, he provided the following website: <ftp://ftp.apple.com/developer/Quicktime/Tools/Programmers_Tools/Hack_TV.sit.hqx>. Ed Dixon had the following advice: "You might try Audacity at <<http://audacity.sourceforge.net>>. It is free and for PC and MAC. You can capture analog with it and record your own voice." John de Szendeffy added: "Audacity has a nice, simple interface for a wave form editor, but, at least in OS 9, it is buggy. It drops chunks of sound in longer recordings and crashes.... The export to and import from MP3 is also painfully slow. Nonetheless, our students use it for certain projects. CELOP had a simple sound recorder for the Mac written for us years ago.... We actually use it more often than Audacity for short recordings that don't need to be edited. You can read about CELOP Recorder and download it and a primer for free from <http://www.bu.edu/celop/mll/admin/celop_recorder.html>. Françoise Sorgen-Goldschmidt's response to the initial query contained another question and a comment. "...I ... have been using AudioX which could be downloaded from <[Vol. 36, No. 1 2004](http://</p></div><div data-bbox=)

www.realmacs.co.uk>. However, I cannot find the download for AudioX 1.0 that was free. The website now redirects you to <<http://www.realmacsoftware.com>> where you can only find Audio X3 which isn't free (\$20).... AudioX 1.0 is very easy to use and produces a QuickTime file. I compress QuickTime files with QuickTime Pro (\$30) Can one still get a free version of AudioX? ... PCs have a free recording tool. Macs should too if they want to keep their reputation as the better platform for multimedia. Any comments or suggestions?"To this, Trish Early replied: "There is a free tool called Audio Recorder for the Mac that can be downloaded at <<http://versiontracker.com/dyn/moreinfo/macosx/17392>>...." Judy Shoaf made another recommendation: "Praat is awesome and free, and appears to have a Mac version. It gives waveform feedback, and our pronunciation teachers are enthusiastic. The software is available at <<http://www.fon.hum.uva.nl/praat>>." Glenn Priest wrote: "I have also heard that there are soon to be Linux versions of WIMBA and eLangLab for MAC's OS10." Beth Secrist: "As far as Wimba is concerned there is already a Linux (as well as Solaris) version available and OSX client. Of course it is not free. We use Audacity as our free audio recorder. John Dowling responded: "We represent Wimba and eLangLab in SEALLT land and can report Wimba is fully operational... with the Mac OSX platform.... We demonstrated Wimba with OSX using the Apple-MAC exhibit machines at the IALLT conference at the University of Michigan ...in June. The eLangLab MAC OSX version with recording has not been completely tested by our office, but we have great faith in their ability."

The Fate of Those Tapes Once You've Gone Digital

The September discussion entitled the fate of those tapes once you've gone digital (#7242) was launched by Samantha Earp with the following: "Like everyone else, we have gone digital as much as possible with our instructional audio materials. (We do have some audio cassettes left in some of the languages where the departments haven't decided to purchase licenses for digital distribution). In our case, digital distribution means that we provide access to the materials via password-protected, web-based course management system sites. Our streaming server is set up to distribute the media but not download it, so students and faculty don't actually get copies of the media files, just access. This is troubling to some people who want to actually get their hands on something tangible like a cassette or a CD. So my question is: what have you all done about this? Do you make CD copies of the digital files? Have you kept audiocassette copies around for those determined few who for one reason or another don't want to use the digital media?..." Judi Franz re-

ported: "We have kept our cassette masters and our tape duplicating machines for those students who want something tangible in hand. They have asked for CDs, but we just don't have the capability to mass-produce CDs at this point, so we don't do it. It is on the web or on a tape. We do back up all of our digitized material in QuickTime format on CDs as well. We even have gone backwards at times, making a cassette master from something we received in digital format from a publisher, because a student wanted a cassette copy." Judy Shoaf: "We also skipped the CD stage... and students here have the choice between taped copies and the streaming audio on the... Since we still have our tape duplicators I get permission to copy tapes for students as well as permission to duplicate. We only give out a very few tapes now but they are still useful for some situations. It helps that we have a lab where students can come to listen to the online audio if their home computers do not have good "reception." But if they want the CDs I guess they can buy them from the publishers.... (because CDs are so easy & cheap to copy and bundle... some courses do have the students order the CDs as a set, with the online audio there only as a backup)." Otmar Foelsche explained the back-up procedures at Dartmouth: "... all digitized materials are backed up in streaming formats on CD-ROM, and, more recently, on DVD-R. They also "live" on a pair of mirrored servers. All audio files we have are also backed up on CD-R/DVD-R in MP3 format on a restricted server. We have kept all master tapes. We have also kept tape sets for lab use for those languages that require the Record/Playback function of an analog recorder. We'll toss those out once DL Recorder is ready for prime time throughout the network here. We have seen reel to reel tapes recently that literally dumped their oxide on the heads of the last professional deck we have (purchased from eBay!). We expect the same to happen to cassette tapes and to video tapes. So archiving the tape media to optical media really makes sense. The only reason for not tossing out the cassettes is probably proof of ownership... and oh, did we have the rights to transfer to another media because the original media was crumbling away? But that's an entirely different issue!..." Bob Majors commented on the issue with the reel to reel tapes: "For anyone desperate to recover audio from reel-to-reel tapes that are having sticking or shedding problems, some have found success in getting such tapes into temporary playable condition using controlled baking. Use at your own risk. Here are two pages I found using Google: <http://www.josephson.com/bake_tape.html>, <<http://www.masterdigital.com/24bit/analogtape.html>>" Lee Ramsdell had an explanation to the problem Otmar described:

"The reason that your reel to reel tapes dumped their oxide on to the heads is due to water absorption. Mylar/Polyester tapes manufactured from the early 1975s to about 1985 absorb water into the binder and the oxide becomes a gummy mess that will no longer adhere to the mylar substrate. The problem is known as Sticky Shed Syndrome. Manufactures were required to change the binder formula by the United States Government because the original binder contained a carcinogen. As the manufactures were in a hurry to make these changes, enough testing was not done and thus we now have to deal with this problem. If the recorded material is of value, the tape can be rejuvenated for a short period of time (about 4 weeks) by "baking the tapes in a dehydrator for 4 to 6 hours at about 125 degrees F., then slowly cooled down. This process can be repeated about three times and after that, the recorded material is lost. If long term storage of analog tapes is required, tapes should be stored in a vault at room temperature with as little humidity as possible. To avoid print through, tapes must be wound to the other end every year or so...." David Flores response addressed the proof of ownership issue raised by Otmar Foelsche with the following inquiry: "Yes, that is a different issue. Could we discuss it? I've been trying to determine this for some time. The consensus seems to be "no," but I thought the legality/copyright niceties of "space shifting" media were still being hashed out in the courts." Judy Shoaf's message focused on the legal issues: "There is some relevant legal code at <<http://www4.law.cornell.edu/uscode/17/108.html>>. Basically, certain kinds of institutions have the right to reproduce certain kinds of materials for purposes of security or preservation, if there is no other way to get a copy at a fair price and the materials cannot be preserved or played any other way. So if you don't have cassette machines any more, and your institution qualifies, you have the right to make copies you can play. This is even truer for reel-to-reel. Most language labs probably don't fit the description of a "library or archive" under this act, but some of them may. Also, one would have to ascertain that copies were not available at a fair price and one would be obliged to label the copies regarding copyright if the tape itself did not include copyright identification." Read Gilgen replied added: "I thought the woman who spoke on copyright at IALLT2003 put that notion to rest. Space shifting, as you call it ... is not found anywhere in copyright law. Someone with a better ... memory might recall the details."

A lively October discussion addressed the following topic: New computers with DVD drives and regions (#7278). This thread

New Computers with DVD Drives and Regions

was launched by Laura Atkinson with the following: "When you get new computers in that have DVD drives, do any of you have a process for locking the firmware down to a specific region? My understanding is that most drives let you change regions five times before they lock, and it would probably not be good if any of the machines got locked into something other than region 1. Or, maybe it would be good to select certain machines to be region 1, region 2, and so on. In any event, I want to choose what happens with each one rather than leaving it to chance. Do any of you have well-thought-out policies about this?" The first suggestions came from Carine Ullom: "I talked about the solution to this problem implemented at St. Lawrence University at CALICO in May in Ottawa. Here are some links from that presentation. These focus on a long-term fix that renders the DVD-ROM region free permanently. There are several different options for accomplishing this: DVD Genie <<http://www.inmatrix.com/genie/index.shtml>>, Region Killer <<http://www.elby.ch/english/fun/software/index.html>>, Win2000 & Win XP Registry Hacks <<http://www.inmatrix.com/articles/win2000.shtml>>, and DVD Region Free <<http://www.dvdidle.com/dvd-region-free.htm>>. Ralph Schultz proposed a different solution: "I am now using Deep Freeze to lock down files and devices that I don't want students to mess with." Ron Skulas' advice was similar: "... I use an all-iMac lab running OS 10.2.6, and lock out the systems' administrative functions from the students.... I also run a zone-free DVD/LCD projector set up in our multimedia classroom, so that they get all the Zone 1 DVDs played on the iMacs, and all the others on the zone-free DVD player." Greg Smith raised some concerns: "Without getting too deep into this, if a DVD is encoded for playback in only a specific region, wouldn't defeating this be a violation of the copyright or other use agreements?" Ed Dente refuted these concerns: "...Hollywood and the RIAA would love to have us believe that. They have intimidated too many people into giving up their Fair Use rights as it is without our giving more away unasked. Once I own a DVD I can play it on a wind-up Victrola if I want." James Hogg added the following thoughts: "Is there a law establishing the DVD zones of the world? I think it is only an industry initiative. Since major conglomerates produce the DVDs and the players and sell them, they are in collusion about the zones. There are websites devoted to figuring out how to break the codes of set top players, and of course there is software for bypassing the zones on computer DVD players. I haven't heard of any witch hunts to get the people doing this. Even zone free machines are sold legally...." Jason McKrola cautioned with the following: "What I believe is the

short answer to the Region Code question pending a Copyright Office ruling: Hacking software: violation of the DMCA; Region free players: violation of the DMCA; Changing the region on your DVD drive: permitted; Purchasing an unmodified non region 1 player: permitted. There is a proposal before the Copyright Office requesting the Librarian of Congress to grant a limited exemption the DMCA pertaining to the region controls on DVD players, however, a ruling has yet to be issued. The proposal is limited to foreign motion pictures released as a non region 1 DVD, and are not otherwise available on DVD in the United States. This proposal was discussed in hearings (as stipulated in 1201 to be held every 4 years) in May 2003. The transcript is available here: <<http://www.copyright.gov/1201/2003/hearings/transcript-may15.pdf>>. The issue of region encoding is discussed in session 3, pages 226-324 of the transcript. Reading the transcript, it is clear that under current interpretation of the DMCA by the Copyright Registrar rule making committee, there are certain instances of playing a non region 1 DVD that are not viewed as a violation of USC 1201(a)(1). These are: a. Changing the region on your DVD ROM player, as permitted 5 times, including resetting the count by an authorized dealer up to 5 more times, for a total of 25 changes. b. Playing the DVD on a non region 1 player, such as one purchased in or imported from Japan or Europe. However, playing the DVD on a "region free" player, i.e. one that has been modified and "circumvents" the "access control" technology as recognized in DMCA is viewed as a violation of 1201(a)(1). The use of software to alter the region change counter on a DVD ROM drive, although not specifically addressed in these hearings, would, in my opinion, likely be considered a similar violation...." Judy Shoaf joined in with similar observations: "Actually, there is a law against rigging a VCR to skip or ignore the region codes on DVDs: The Digital Millennium Copyright Act, Public Law No. 105-304, 112 Stat. 2861 (Oct. 28, 1998) (also referred to as the "DMCA") was passed by Congress in October 1998 and was signed into law by President Clinton on October 28, 1998. This legislation substantially rewrites Title 17, the U.S. Copyright Act, by creating new copyright-related rights not limited to the prevention of traditional copyright infringement. The Act imposes civil and possible criminal liability for the circumvention of access control measures and for the distribution of technology to circumvent access or copy controls (see <<http://cyber.law.harvard.edu/openlaw/DVD/dvd-discuss-faq.html#ss1.5>>.) The "access control measures" could be construed to include the DVD codes...." Derek Roff countered the previous postings: "The DMCA is a breakthrough piece of legislation, in that it allows

corporations to invalidate state and federal laws, and international treaties and conventions, without prior notice, review or restraint. Manufacturers can eliminate explicit rights of citizens on their own corporate volition, and can pressure other companies to go along via threat of DMCA prosecution, as has happened with the DVD-ROM drives in computers. I follow and enforce standard copyright agreements in my job, but I publicly refuse to follow the DMCA. I support the Electronic Freedom Foundation and the many other groups and individuals who are fighting this law. I am hoping that the DMCA is modified or repealed before I get fired or put in jail, but the odds are against change in the short term. Aware of the risks, I feel this is a place I want to take a stand for our rights as citizens and against corporate and governmental abuse of our rights." Read Gilgen commented on the postings citing the DMCA and the copyright laws with the following: "Please DO look at the IP Justice website. I think it "clearly" refutes some of the "clear" interpretations.... Fair use rights are being unfairly challenged by those who want to profit, and it's not "clear" at all that they have any legal, let alone moral right to do so..."

Recording TV to Disk

A thread on Recording TV to Disk (#7325) was started in November by Joseph Kautz with the following message: "We have some instructors who record off air broadcasts to VHS for use in class. I am looking for a way to capture these broadcasts directly to a HD (e.g. Tivo?) I want to avoid having to digitize the stuff from VHS. Does anyone have suggestions for how to do this?" An initial respond was submitted by Andrew Cavanaugh: "Yes, there are quite a few devices with which to do this. I have a Sony computer which came with Sony's Gigapocket software. With this piece of software, I can set my timer to record certain news shows. I can then watch them (and skip the commercials) when I want to. I can also take segments of the shows and convert them to mpeg-1 or mpeg-2 and put the files on any computer at work to show my class. It is much better than recording onto a VHS tape and digitizing later...." Bob Majors had some technical tips: "The Formac Studio TVR accepts RF (cable TV) input as well as analog audio and video, and outputs native DV over IEEE 1394 (FireWire, etc.). One program sets up the unit (you can give names to the channels, for example); another allows you to program the channels and times for recording. There are compression options for the files it saves. Recent price drop to \$299...." Zachary Chandler shared his experience with the same software: "I suggest the Formac TVR (Mac only), available at <www.formac.com>. It has RF in (as well as RCA) and firewire out. (Be careful not to

order the studio dv, which is a converter only, no RF in.) It comes with software for handling program scheduling, etc. that is pretty easy to use. You can save as compressed files (QuickTime, IMA 4:1) to make the most of your drive space - or go with uncompressed...I started using the device this year, and I'm pretty fond of it. I dump QuickTime files or MPEG-4 onto CDs, after I've had my standard fair use, classroom-only use conversation with the faculty member...."Derek Roff:"... EyeTV from El Gato <<http://www.elgato.com/eyeTV/>> is a hardware/software combination for Mac OS X that records analog video input as an MPEG-1 digital file on a computer's hard drive, with Tivo-like features. It works well for us, in allowing students to view and review episodes of *Destinos* and other language video materials that we broadcast on our internal analog TV network. We have not used the files for any archiving or digital distribution."More suggestions were submitted by Margo Burns:"... For digitizing video onto HD, I use a \$200 Synchronotech Datavideo DAC-100 box <<http://www.synchronotech.com>> to take analog video from any source via regular RCA cables or S-video, and converted it to DV and send it along via FireWire to my Mac (does Windows, too), where I do my basic editing in iMovie, then burn a DVD with iDVD.I have tried it successfully from live TV, VCR, TiVo, video camera, and DVD as output sources..."Peter Lafford added:"A video capture card such as the ATI All-In-Wonder Pro does a pretty good job with a powerful-enough computer (We've got it on a 1 ghz P3). \$150-200 gets you a card and software including "TV on demand"; it will save in its own ".vcr" format, which can be played back on the computer by the ATI File Player, or exported to an MPEG format. It will take about 1 GB per hour of recording in default mode."

Lab Curriculum Ideas

A November/December call for lab curriculum ideas (#7347) was initiated by Rebecca Adae:"I don't think I'm alone in thinking that many faculty are afraid of technology. Now I find myself with a brand new Sony digital lab three years after I conducted a survey of the faculty. They overwhelmingly supported a state-of-the-art lab....That didn't mean they wanted to teach there! So now \$400,000+ later, including a \$100,000 federal grant (the project encompassed a major structural remodeling), faculty are revolting because the President and Provost are insisting that they use the room or the FL Dept. and College will lose credibility.... All believe they need more training in how to best utilize the capabilities of the equipment and integrate them into the meager 3 contact hours they have with introductory and intermediate level students each week. (Stu-

dents studying Japanese and Chinese have 4 hours/week and then 90 minutes of required lab.) Faculty rotate classes in the lab classroom 1 hour/week. Sort of like a "Best Practices in the Lab" type of thing., Thus our Provost's office is sponsoring a workshop.... I am seeking presenters who could demonstrate communicative lab activities." Victor Aulestia shared the following observation: "... Faculty well versed in the application of technology in the teaching of FL have vanished to their offices because they lack the financial support and professional incentives. The proliferation of graduate assistants with very little background in the use of technology in FL. The lack of media development training opportunities, etc, etc. ... Anyway, you may have to look for clients outside the department to justify your facilities...." Read Gilgen: "I feel your pain. New simply means being able to do things the old way, with new equipment and/or facilities. We went through that too, but not quite as expensively as you did. If you're looking for good presenters, I'd contact the IALLT team that has been putting on the Houghton Mifflin/IALLT workshops. Start by contacting LeeAnn Stone, former IALLT President, and the one who has probably done more in this area than anyone. She is also the one who coordinates these workshops. Perhaps they could organize something and bring it your way...." You can find LeeAnn's info at the IALLT consulting page: <http://iallt.org/iallt_services/consulting_services_list.html>. Alexander Waid made the following recommendations: "Yes, it's interesting. I started the Language Program at the Coast Guard Academy a few years back and they designed the lab with little input from me.... I'm still the only Language Faculty person here and I've struggled with how to best employ the lab: I'm familiar with the technology, but not the pedagogy associated with it, and there's LOTS of pressure to use it due to the \$\$ that was spent on it. I would recommend IALLT and, in particular LeeAnn Stone and her two books (which you can purchase through IALLT's site)...." Jenise Rowekamp shared another resource: "Our latest newsletter features two articles on the use of our digital labs (DiLL), one where teachers talk about how they use them. You can find the articles at <<http://languagecenter.cla.umn.edu/elsiespeaks.php>>." More sources for training were mentioned by LeeAnn Stone: "... Carol Wilson-Duffy has an article in the most recent CLEAR news on "Creating Online Language Activities: Putting Task-Based Language Teaching Activities to Use (Part 2)" that is informative. Part 1 is apparently available online, but I haven't found it yet. CLEAR has a summer institute on creating task-based language activities (see their site: <[Vol. 36, No. 1 2004](http://</p></div><div data-bbox=)

clear.msu.edu/training/03institutes> that Carol teaches as well.... As others have mentioned, there is a treasure chest of knowledgeable, excellent presenters among IALLT membership, many of whom would be interested and willing to provide some workshops for you. Feel free to contact me to discuss the possibilities."

The discussions of the Language Learning and Technology International (LLTI) listserv have been archived and posted on the web. These LLTI archives can be accessed from the IALLT Home page, which is located at <http://www.iall.net/>. A link to the LLTI listserv appears at the top level of the IALLT Home page. The LLTI listserv page gives instructions on how to subscribe or unsubscribe to the listserv. In addition, there is a link to the LLTI archives. These archives can also be accessed at <http://listserv.dartmouth.edu/archives/llti.html>.

To search the archives, type the subject in the first search field. The search engine will match the subject with the subject headings of the archived messages. You may also type a key word or words in the second search field. This search will look for the key words in the body text of all messages. If the reference number that has been assigned to a discussion topic is entered in this field, the search will bring up a complete list of all discussions dealing with the topic. You may also want to restrict search by limiting it to a specific author or by entering beginning and ending dates. Such a restriction is particularly useful for searches on frequently occurring topics. Any questions or comments related to the LLTI listserv may be addressed to Otmar Foelsche, the moderator of the LLTI discussion list. Otmar can be contacted at otmar.foelsche@dartmouth.edu.

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