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Newsletter of the Learning Technology Center

LTC Creates Visualization Lab

Facility will provide COE Researchers Large Scale Manipulation of Data



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From the Director

School districts and state educational agencies collect huge amounts of data on students. This data can help predict which students need extra support to be successful and determine how best to help them. And here in the College of Education, faculty routinely amass large datasets when conducting their research.

The challenge is that these datasets are often so large and complex that it is hard to make important connections and interpret critical information from the data. Visualizations of the data on very large display systems with specialized software can help researchers manipulate large amounts of information and see patterns, details, and relationships that would otherwise take much longer to see or be missed altogether.

That's why, when I visited the Texas Advanced Computing Center's (TACC) Visualization Laboratory last year, I realized that a College of Education "vis lab" could be a powerful tool for the analysis of educational datasets. I met with many faculty across the College who agreed and supported the idea. We received special reallocation funding from Dean Justiz for the project, and today, the Education Visualization Lab is a reality.

Housed in the LTC in SZB 439A, our visualization facility is a joint project with TACC. We received technical design and software assistance from TACC, and they will continue to help us operate the lab.

I believe the EdVisLab will be an invaluable tool to the College and its researchers. Seeing large scale visual manipulations of their data on the

15-monitor display will allow them to discern trends and gain new insights that would be hard to understand without the visualization process. To my knowledge, we are the only College of Education in the world that has such a facility. See pp. 4-5 to read more about the lab.

The EdVisLab is just the latest of many ways the Learning Technology Center works to explore uses for new technologies to benefit education in the College. We also recently improved our automatic computer backup system (p. 6), installed a Steelcase media:scape collaboration table (p. 6), and our IDEA Studio provides training for teacher education students on the responsible use of Facebook (p. 7). Please read more about our endeavors in this edition of *DataStream*, as we work to serve the College of Education.

LTC Provides Teacher Professional Development on Technology Tools

Learning Technology Center coordinators Karen French and Ken Totho traveled to Connecticut twice last fall, providing professional development on the use of technology to support world language learning and the teaching of bilingual curricula. Each two-day workshop featured hands-on exploration of a wide variety of equipment, software, and online learning tools for teachers at two schools in Connecticut with dual-language immersion programs.

The LTC developed an online environment specifically for the workshops and the schools' goals to integrate innovative technology use into instruction. EVIDA (Espacio Virtual de Aprendizaje) is based on the Elgg social networking platform and allows teachers and their students to create and

share many types of content, participate on discussion boards, and geotag photo collections. Its interface is designed for young Spanish language learners and includes icons for accents.

The workshops covered the use of interactive whiteboards, classroom response systems, VoiceThread, Web-spiration, and laptop videoconferencing with Apple iChat. The teachers were particularly excited about iChat and used it to collaborate, plan technology activities, and get technical help from LTC staff. The teachers also learned about educational technology standards and the assessment of technology-based activities. During the final workshop sessions, the teachers began to design learning activities to use with their students.

The workshops were part of the LTC's partnership with LEARN, a Connecticut regional education service

center. The project was funded by the Connecticut Department of Education as part of an Educational Technology Entitlement Grant authorized by the American Recovery and Reinvestment Act of 2009.

Karen and Ken followed up the workshops with six online sessions this past spring, using iChat video. The teachers reflected on their use of the new strategies and technologies—sharing successes, improving methods, and planning new activities.



Teachers Abby Chamberlain and Rebecca Hall practice technology skills.

Thirty Years of Video Equipment at the LTC

At a staff meeting this spring, Ken Waters, LTC Services Coordinator, and Rob Donald, who manages the Equipment Checkout service, mentioned that last fall no one checked out a video camcorder that recorded to tape. With a large fleet of Xactis and Flips—both tiny camcorders capable of recording regular or high definition video onto a small memory card—the LTC’s Equipment Checkout had gone tapeless.

This seemed like quite a milestone for the LTC and its long history of providing video equipment for the College of Education. So we decided to take a look back at the video equipment the LTC has checked out over the last thirty years and the ways students and faculty have used it to create video.

“Video technology is always changing and improving,” says Ken. “Back in 1981 when I started at the LTC, which was then called the Learning Resources Center, we had Video Portapak that for the first time allowed students to record their own video on location.” The “porta” distinction in its name is certainly dubious by today’s standards; the “pak” was a large case about three feet long, containing a camera, recorder deck, battery pack, AC adaptor, microphone, cables, and tripod and weighing about 50 pounds. Handles on each end allowed two people, with effort, to transport it with awkward mincing steps. The deck used a reel of ½” tape that had to be manually threaded through the recorder. Images from the camera were black and white only.

About two years later, tape cassettes had been developed. “We had to decide whether to go with VHS or Beta,” recalls Ken. “Fortunately, we went with VHS, which quickly became the standard format for the next several years.” The LTC’s VHS decks were smaller, lighter, and automatically fed

the tape from the cassette around the recording heads. Cameras had also improved and produced a color image.

More advancements occurred in the late 1980s and 1990s. The camera and record deck merged into one unit, the camcorder. Super VHS, 8mm, and High 8 came and went as the latest video formats. Mini DV, introduced in the late 1990s, digitally recorded a high-quality image on a very small cassette, allowing camcorder sizes to further shrink. And then, in the late 2000s, tiny tapeless camcorders became available.

Throughout these developments, the LTC’s Equipment Checkout always strived to provide students with up-to-date equipment that best allowed them to produce video easily and inexpensively for a variety of instructional purposes. Students honed skills by analyzing video of themselves teaching or practicing job interviews; created short instructional videos as part of lesson plans; recorded interviews for

graduate research; and captured video to use within multimedia presentations.

Has tape disappeared completely from Equipment Checkout? Not really. Rob reports that some graduate students used Mini DV camcorders this spring because external microphones can be used with them, providing better quality audio. There are also issues with the short battery life of the small tapeless units, making them less than ideal for recording long lessons. But, Rob says, “Most students love the fact that they don’t have to buy tape and can transfer the video files fairly easily to their laptops for editing with iMovie.”

So what’s next? Will 3-D capability be the big new feature for the next generation of camcorders? No matter what happens in the ongoing development of video technology, the Learning Technology Center will be there, assuring that College of Education students have access to the equipment they need to produce video for teaching and learning.

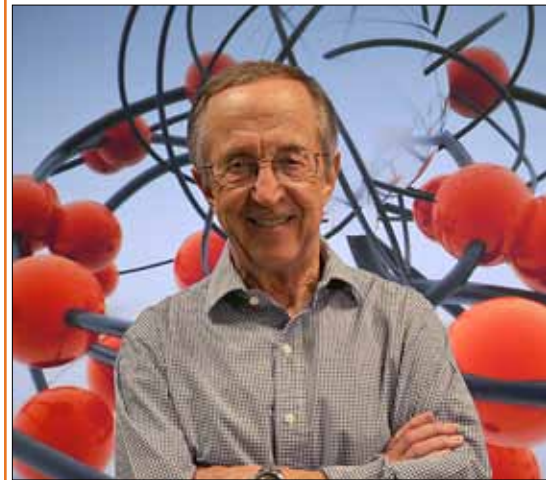


Clockwise from top: Ken Waters with a Sony Portapak, 1981; comparison of memory card to VHS cassette shows how video storage has shrunk over the years; Rob Donald with tapeless Flip camcorder; the JVC GS-TD1B Full HD 3D Everio Camcorder.

LTC Establishes the Education Visualization Laboratory to Help COE Researchers Analyze Large Datasets

The visual analysis of data is quickly becoming an indispensable tool in educational research. Although visual data analysis is well established in the natural sciences, recent developments, such as the collection of massive amounts of student data and large-scale textual and computer logging analyses, has made its use applicable to many kinds of educational research.

The College of Education's Education Visualization Laboratory, in the Learning Technology Center, will allow COE researchers to more easily see and understand patterns, structures, trends, and relationships in large and complex datasets.



education and the social sciences," says LTC Director Paul E. Resta, who developed the proposal for the lab and garnered faculty support for it. Already, many researchers in departments and centers throughout the College have made plans to use the lab as the benefits of visual analysis become evident.

The Texas Education Research Center can use visual analysis to study the massive amounts of data they have gathered on Texas students. In Kinesiology, the lab could be used for the graphical display of data involved in the biomechanical analysis of human movement, as well as for simulations of movement. Trends over time, in multidimensional data such as teacher migration, could be determined. In all areas, large datasets could be analyzed more quickly, and more complex analyses could be conducted.

Taylor Martin, Associate Professor in Curriculum & Instruction who has already done work in the TACC Visualization Lab, is particularly looking forward to using the EdVisLab. She conducts research on virtual manipulative software and how children use it, looking for patterns in the ways young learners approach problems. She also studies how students learn programming and the evolution of computational thinking concepts through the use of a virtual robot programming environment. Both projects involve massive datasets. The lab will allow her to use visual analysis much more frequently, and more easily develop analysis tools to find undetected patterns in the data

Opening in September, the EdVisLab, located in SZB 439A, features an array of 15 30" high resolution monitors, specialized software, and an intuitive graphical interface. The lab is a joint project with the Texas Advanced Computing Center (TACC), which provided technical design assistance and will help operate the facility. The LTC received special funding from College of Education Dean Manuel Justiz to create the EdVisLab.

"The EdVisLab will allow the College of Education to become a national leader in the use of visualization in



Far left: LTC Director Paul E. Resta. Left: The visualization array consists of 15 high resolution monitors. Below, left: Greg Johnson, TACC Research Associate, uses custom software to arrange images on the array.

and display those patterns in ways that reveal new insights into the learning process.

The EdVisLab will also feature a 73" 3-D monitor with special 3-D glasses. "3-D learning objects help us better understand models of things like maps, atomic particles, and DNA because they can be explored from all angles," says Ken Tothero, LTC Coordi-

nator for External and Special Projects who has managed the development of the EdVisLab. "3-D simulations let researchers interact, manipulate, and change models."

Use of the EdVisLab will be by appointment only. For more information and to inquire about using the lab, please contact Ken Tothero at ktothero@austin.utexas.edu.



Above: Ken Tothero, LTC Coordinator for External and Special Projects, uses 3-D monitor and glasses with a wireless mouse to manipulate 3-D learning objects. Cover photo: Brandt Westing, TACC Research Engineer, views a visualization of all books available on Amazon.

New LTC Equipment Facilitates Collaboration

The LTC made many improvements to its facilities this year, focusing on equipment that helps foster communication and collaboration and on increased access to electrical outlets.

The Laptop Help Desk (LHD) in SZB 536 has been outfitted with a large flat panel monitor. The LHD team uses it to show LHD announcements and general information on laptop software. It also allows for easier demonstrations of the use of software, especially for more than one person. No more huddling around a

small laptop monitor! The Equipment Checkout Desk, also in SZB 536, has installed its own monitor to display general LTC and checkout information.

A Steelcase media:scape collaboration area was installed in SZB 537 in June. It supports true collaboration because the technology is very easy to use and allows everyone to contribute equally. Two large flat-panel monitors are mounted on a table that seats six. A unique set of “pucks” connects up to six laptops to the system, allowing each to display to either screen or both with a quick touch to the puck.

The two-panel system is great

for many types of collaboration and groupwork. For example, one screen can display the Web as a group looks for resources; the other screen can display the document the group is working on. Or, a screen can present a distant participant via laptop video-conferencing, while the other shows a spreadsheet under discussion.

New easier-to-access electrical outlets have been installed in SZB 439E, the Fourth Floor Technology Classroom. These should make it a snap to plug in laptops and reconfigure tables. This room’s Promethean interactive whiteboard has been updated with a digital projector, providing a crisper image and more seamless integration with the room’s projection system.

LTC staff also helped with a project to install electrical outlets at the tables at the northwest windows of the Sanchez Building’s third, fourth, and fifth floors, so now students have more places than ever to use and recharge laptops.

To learn more about all the facilities and services that the LTC provides, browse our Web site at ltc.edb.utexas.edu and print out a PDF of our LTC Services Directory.



James Cutrone, Jesse Koay, Enoch Lai, and James Keys check out the media:scape display system.

New Software Improves Computer Backup System

Backing up computer files is one of those things that seems like too much trouble to deal with. That is, until an entire database is wiped out with a single, errant click or a laptop hard drive gets fried.

Fortunately, we have the perfect solution for this problem! The Learning Technology Center Technical and Network Services team provides a backup service for all college-owned computers. Just request this service and your backup worries are over!

This service got even better recently

with the installation of new software, CrashPlan PRO. Among its benefits:

- After the initial full backup, changes are backed up every 10 minutes.
- Laptops can now be backed up over any Internet connection.
- Users can find and restore their own files with the easy-to-use interface.
- Data transfer encryption secures all files.
- All data is backed up weekly to an off-campus site, protecting it from Sánchez Building disasters.

But you must first request this great

service. So quit worrying about computer backups. Send a message to help@edb.utexas.edu and request the backup service today!



IDEA Studio Trains Students on Responsible Facebook Use

Everyone's on Facebook these days—including teachers. Although Facebook can help teachers communicate with students—with up-to-the-minute schedule information or “online office hours,” for example—its melding of personal and work-related information can be fraught with professional peril. This is especially true for teachers, who are expected to model ethical standards for their students and whose contracts in Texas usually include a morals clause.

The College of Education (COE) recently committed itself to ensuring that all of its preservice teachers know how to responsibly use Facebook and understand social media security and ethics for educators. The help of the LTC's IDEA Studio is an essential part of this effort.

“Facebook is a great way to quickly share unfiltered information with lots of people, but that's its danger too,” says Karen French, IDEA Studio Co-

ordinator. “We want to make sure the preservice teachers know what school districts expect, how to meet those expectations, and how to keep their information safe.”

IDEA Studio staff are developing a Web site for COE teacher education students that provides a matrix of information on the social media and ethics policies of central Texas districts. An online training module on the responsible use of social media will also be developed that all teacher education students will take before their classroom observation semester.



Facebook guidelines stressed in the training include:

- Teachers should not “friend” students
- Teachers should allow only “friends” or, at most, “friends of friends” to see their information
- Teachers should make sure their names are not searchable

The IDEA Studio also offers live training sessions for COE classes. In these, students Google themselves and are often surprised by what turns up. The students check their own Facebook accounts and are encouraged to

reset them to recommended settings.

Training sessions are available now, and the Web site and online training module should be ready in the fall semester.

For more information on teachers' use of social media, contact Karen French.

Redesign Planned for College Web Site

Big changes are in store this year for the COE Web sites! As this newsletter goes to press, the Department of Educational Psychology is planning the launch of its new Web site design in September. Through a special allocation from the Dean's Office, the department was able to work with the UT Office of Public Affairs Design Center to revamp the look and organization of its site.

“We wanted our Web site to better illustrate the quality of our programs and the great things our faculty are doing,” says Aaron Rochlen, EDP Associate Professor who led the effort. “We worked with a photographer who captured some wonderful images that highlight the important work this

department does.” LTC Web Designer Michael Arbore created Web templates for the new design and helped EDP IT Coordinator Julian Chapa and others in the department create the new pages.

The site's new streamlined graphics and link organization will serve as a model for an update of the COE and other departmental Web sites. “It's been about five years since we had a design



Michael Arbore

update, so it's time for a new and more current look to better reflect where the College is today,” says Michael. Michael will work with each department in the coming months to transfer their content to the new design.

DataStream is published periodically by the Learning Technology Center, College of Education, University of Texas at Austin, to bring you the technology news of the College and to keep you informed of LTC services. Address questions, comments, and suggestions to lcc@austin.utexas.edu.

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The Learning Technology Center's Presidential Timeline has added two major features this year: a timeline for President George W. Bush and a new tool that allows anyone to create their own timelines on any topic.

George W. Bush Timeline

For those interested in studying the battle against terrorism and the wars in Afghanistan and Iraq, it is essential to research the decisions and actions of President George W. Bush. The George W. Bush Timeline, which debuted in May on the Presidential Timeline Web site, will allow anyone to examine, through primary source materials, the events of the last decade and the impact of a president's decision-making.

The Bush timeline details over 100 events throughout the former president's life with photographs and documents from the George W. Bush Library, which will open in its permanent facility in 2013 on the Southern Methodist University campus. Highlights include many photographs that chronicle Bush's handling of the events of 9/11 and the days following the attack. Many other important issues and events are also

historical resources, including audio and video clips, photographs, and documents, from the collections of the presidential libraries. The LTC partnered with the libraries to develop the Web site, with funding from the National Endowment for the Humanities and the Lyndon Baines Johnson Foundation.

"Adding the George Bush timeline was a big job for us," said Ken Tothoro, coordinator of the LTC's External and Special Projects and manager of the project. "Our programmer, David Kim, had to 'reverse engineer' and reprogram the entire structure of the site."

As with all the presidents' timelines, new digital objects will continually be added to the Bush timeline. Exhibits, which provide an in-depth look at a particular event, are also planned.

Create Your Own Timeline Tool

Perhaps you have lots of photos of your grandfather and would like to use them to tell the story of his life. Or, as a teacher, you'd like your students to map out the life cycle of

features they'd like to see added to it.

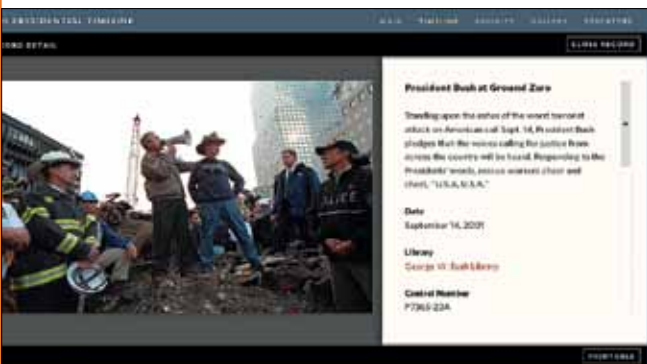
The Create Your Own Timeline (CYOTL) program is very easy to use. With just a few clicks, you can create a timeline and add events to it. Digital assets, including images, documents, audio, or video can be added to any



event. Timelines can cover a range of years, months, or days, and you can choose one of several templates for its design or create your own. Timelines can be kept private, shared with specified users, or made public. Those viewing timelines can "Like" or comment on a timeline and its events or digital assets.

For Ken, "the most interesting aspect of the Create Your Own Timeline tool is its usefulness in all content areas. Timelines are great ways to organize and visualize knowledge and can support learning activities in any subject." Overlaying and comparing multiple timelines, which CYOTL supports, allows students to easily discern similarities and differences. Education specialists at the National Archives' Presidential Libraries are currently developing a series of educational activities using CYOTL.

The Create Your Own Timeline tool will be available on the Presidential Timeline Web site for everyone to use this fall. For additional information about the Presidential Timeline and CYOTL, contact Ken Tothoro.



covered, such as Bush's work to pass global AIDS relief legislation and the aftermath of Hurricane Katrina.

The new timeline joins those of twelve 20th century presidents, Hoover through Clinton, on the Presidential Timeline. Each features a trove of

International Society for Technology in Education (ISTE) 2011 Conference in Philadelphia.

"The presentation generated lots of interest. Over 100 people attended," said Ken Tothoro. Many said they wanted to use the tool and gave suggestions for

Left: George Bush at Ground Zero, Bush Timeline. Above: Adding a photo in the CYOTL tool.